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APRIL, 1890.

ONLY within the last half century has horticulture engaged in earnest in the preparation and adornment of burial grounds. To compass its purpose it has not been sufficient to indicate the planting and the methods of planting of trees and shrubs and flowering plants, but it has been necessary to rearrange cemeteries on new lines, and to-day the best appointed grounds devoted to this purpose exemplify numerous features formerly unknown, and which have been developed by intelligent observation and the application of scientific principles. During the same time there has arisen a sentiment or a conviction that earth burial

should be superseded on sanitary grounds by cremation, and this latter method is practiced to some small extent, more in Europe than in this country. With us it is an imported idea and makes but little progress in the community, the movement being impeded, probably, not more from the conservatism and opposition of custom than from the lack of perception of any necessity for a change. Undoubtedly in some

of the cities of the Old World, where the method of cremation has in late years attained some prominence, there may be good and substantial local reasons for its substitution for the prevalent mode. That such conditions may also obtain in this country is presumable and even probable; yet this is a problem remote, and it is not improbable that when the necessity of its solution actually occurs, the advancement of science will enable it to be solved in a manner quite different from any we should now make.



It is not to be overlooked that earth burial has often been practiced in objectionable ways, that burial grounds, in some cases, have been more or less detrimental to the health of near-by dwellers. But what concerns us now is not the bad methods that have, in some places, been practiced, the abuses that have been allowed by communities lacking in public spirit, or from some other cause unable to regulate properly the interment of their dead, but the modern methods now in vogue. Are our cemeteries detrimental to the public health? A recent number of that excellent and able journal, *The Sanitarian*, contains an article by ROBERT GRIMSHAW, Ph.D., C. E., on "Cemeteries and the water supply of the City of New York." Notwithstanding the title, much of the article referred to relates to the defilements of water supply from other sources than cemeteries, and what is said in regard thereto is appropriately and admirably said. The action of the State Board of Health on this subject is stated and commended, although the writer does not think the Board has gone far enough. Then, taking a survey of the country, the writer says: "All over our broad land the living are allowed to pollute the water we drink and the air we breathe, and the dead add their still more dangerous defilement." In another sentence, the allusion is as follows: "the dead in cemeteries allowed to steep in the drinking water which their temporary survivors are compelled to drink. This evil of the grave is the most crying one of the present day. Thousands of dead are deposited within a short distance of the surface, the rains from heaven hasten and render more horrible their decay, and then carry to the living the horrible seepage laden with disease and death, and all the more difficult to combat because so insidious." Can there be any stronger arraignment of our cemetery system? One cannot help asking, is this true. Certainly the statement appears overdrawn, sensational. Not so, if it be true.

In regard to the investigation of the sources of contamination of drinking water "in most of our cities and small towns," the writer says: "The disgust and feeling of apprehension are being extended to allow the consideration of nearly all of the forms of contamination, except that caused by our crude and

worse than barbarous way of disposing of the dead."

What barbaric way is here referred to we are not informed.

Again, the writer says: "There is every reason against the system of earth burial as now practiced by us; nothing in its favor." Here follow some statements intended as descriptive of burial and its results, which the writer has evidently drawn from his unloosed imagination, and have no real foundation in fact, and which, also, it would be useless here to reproduce. The following are the concluding sentences:

"The essence of decay is marked on our brow at the baptismal font, and put to the lips of the sick and dying, who crave a refreshing and life-giving draught. On the ground of sanitation all this should be stopped now and permanently.

"I do not pose here as advancing any special method of disposition of our dead. Whether the method chosen to supplant the seepage system be incineration, desiccation, mummification, petrification, or some other system, old, modified or new, it matters little, so that the horrors of the present mode are obviated, and its dangers averted. What succeeds earth burial, as now practiced, may be determined later; but that the secret terrors of the church-yard and the common burial place be no more permitted to exist, should be our firm resolve."

Could the interment mode be more strongly accused? We have omitted much of the descriptive matter of the writer, which, as has been intimated, is most repulsive.

The accusation cannot be admitted. The results that ensue from earth burial are not such as this writer alleges. On this point there is sufficient evidence. The exact nature of the changes that animal and vegetable substances undergo in the soil in the dissolution of their tissues, science has not yet wholly and exactly decided upon. But in this connection it may be interesting to repeat a contribution in this same number of the *Sanitarian*, of a translation from the *Zeitschrift für Hygiene*. It is as follows:

"The destiny of pathogenic micro-organisms in the cadaver have been studied by the well known bacteriologist, Dr. E. ESMARCH, who has published a series of experiments made while investigating



the changes or evolutions of the pathogenic micro-organisms in the human body after death.

"From these experiments it appears that shortly after death there is an increase in the number of these microbes, but that somewhat later they all die, and the more rapidly the process of putrefaction advances the sooner their destruction occurs.

"The destruction of these bacilli may be explained by the development of a species more vigorous, which destroys the pathogenic species, partly mechanically, by their enormous numbers, and partly by the chemical changes which take place in the matter in which they were developed, giving rise to substances which cause the destruction not only of the pathogenic species, but also of the destroying species in the later periods of the putrefactive decay. The author concludes from these experiments that the burial of the bodies of animals that have died from infectious diseases does not favor the development of epidemics."

These scientific observations and the deductions therefrom are not here brought forward as a refutation of the statements of Mr. GRIMSHAW, although it has been alleged by others that infectious diseases have been transmitted through the medium of the graveyard.

So far as noticed, the writers who object to interment do so on supposable grounds, not on a basis of well established facts related to the condition of modern burial grounds. At the last meeting of the Association of American Cemetery Superintendents, held in Detroit, in September last, this subject came under discussion after the reading of a paper by A. W. BLAINE, of Elmwood Cemetery, Detroit, on "Cemeteries within the incorporated limits of cities, and their influence on public health." The most of this paper is here reproduced:

How often do we hear the statement that such and such a cemetery will soon have to be closed. As a natural question, you ask, why? The all sufficing reply invariably is, the health of the city will demand it, sickness in the environs of the cemetery will be so great by reason of the escape of effluvia and the deadly carbonic acid gas, etc., and in fact we have heard these statements so frequently, that we feel like dismissing the whole subject with the slang expression, "Chestnuts!" The assertion is foundationless, and like many another fine spun theory, has been scattered to the winds by the light of sci-

ence and investigation. In an article written by E. G. Robinet, for the *Popular Science Monthly*, in which he quotes many eminent chemists, to prove that the terrible effect of cemeteries on the public health is entirely imaginary, and without any foundation in fact, he says, however, that the air may be contaminated by the disengagement of poisonous gases or by the propagation of miasms. The decomposition of bodies in the earth is real organic combustion, its products are quite well known. The principal and most abundant of these is carbonic acid, a substance that is generated by the slow combustion of carbon contained in all organic matter, vegetable or animal, whether it be a blade of grass, a leaf, wood, manure, decaying rubbish, or a dead body. It may be disengaged from the soil in cemeteries, and most hygienists have until lately considered it one of the principal causes of their insalubrity. This is a mistake. There have been many scientific experiments tried, and very close calculations made of the maximum quantity in the cemeteries of London and Paris, of carbonic acid that can be produced from each person. The result of these calculations, which are based upon numerous weighings of corpses, made in several hospitals, and of the most authentic data of the chemical composition of the human body, show that the quantity is indefinitely less considerable than has been supposed. As carefully tabulated, the weight of the corpses conveyed to the cemeteries of Paris alone, amount to the enormous weight of 3,472,500 pounds yearly, and should all this carbon escape from the earth, which is not the case, as carbonic acid gas, they would furnish 3,142,500 pounds of that gas in five years. Now, according to the calculations of Professor BOUSSINGAULT, the quantity of carbonic acid gas produced in Paris by the respiration of men and animals, and the different processes of combustion at 45,000,000 pounds in twenty-four hours. The same author estimates that the combustion of illuminating gases alone in Paris, produced last year, a quantity of carbonic acid thirty-five hundred times greater than all the dead bodies buried in all the cemeteries of that great city, during five years, at the maximum rate of exhalation. He says further, that the Grand Opera House alone gives out every year thirteen times more carbonic acid from its gas lights than could be given off by all the cemeteries put together, even were their entire carbon converted into gas. The same author gives many varied experiments and analyses made, which would lengthen this article to a greater extent than would be desirable.

A few facts with regard to the experience and observation of several with whom I have come in contact, may not be out of place. Mr. ARCHER had charge of a cemetery in Monroe, this State, forty-one years. He during that time removed the bodies from the Old Burying Ground to the cemetery, doing a large part of the work himself. He resigned two years ago at the frisky age of eighty-one. He is alive and well at present, and stands to-day a monument of well preserved manhood which has braved the ravages of this terrible carbonic acid gas, as well as eighty-three seasons of summer heat and winter storm.

There is another gentleman, in whose case it would seem, if it were possible for the human system to absorb poison from coming in contact with dead bodies in any other mode than by direct injection of the virus into the circulation, that has escaped as by a miracle. This is Professor FORD, of the Medical College, at Ann Arbor, this State, who has stood at the dissecting table at that grand institution of learn-



ing between thirty and forty years, and he is to-day, although advanced in years, the embodiment of all that is well preserved, physically and mentally.

But when he is cited in this connection, croakers will answer you by saying, that the bodies are taken from the pickling vat, where they have previously been consigned. I understand this pickle consists of only plain salt and water. Then if it be admitted that said pickle is a strong representative of combustion taking place, can it not be truly said that we have solved an important sanitary problem?

When we find that our cemeteries are becoming cess-pools of disease, detrimental to the public health, and dangerous to the welfare of the surrounding country (which certainly has not been the case in so far as the world's history has been recorded in the matter) we have the remedy at hand to apply at once. For when that direful period shall arrive, why then we can resort to the salt, not in the formation of a salt trust, but by putting our trust in the salt. All we have to do is to place a sufficient quantity of salt in the grave and depend on Providence for the water, and we are safe.

We occasionally hear those who visit Europe, tell of the unhealthiness of cemeteries in the older countries of that Continent; but on investigation we find these tales to be entirely mythical. For instance, in the city of Glasgow, Scotland, the Necropolis Cemetery, that has been used for interments since the 12th century, is now and has been surrounded by buildings of great age and mammoth proportions, the busy hives of an industrious people, and also adjoining thereon is that noble national benevolence, the Eye and Ear Infirmary, and yet not a word of particular unhealthiness in the locality.

With these facts before us, the unhealthiness of cemeteries within the incorporated limits of cities dwindles down to utter insignificance, and I take the liberty, sir, to make the assertion without fear of successful contradiction, that one-half mile of badly constructed sewer will give rise to more danger to the inhabitants that live in close proximity to its line of construction, than a thickly populated cemetery of one hundred and fifty acres.

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If our duty is well performed we will have under our charge a spot that will invite the refined and intelligent of all nations in which to pass many pleasant and well spent hours. It will be a pleasure to the eye and give room for admiration as well as meditation, without a disturbing thought as to any hidden source of danger to health, and we shall be able to keep that bank of mist (composed of prejudice and superstition) in the dim distance, until it is cleared away by the bright rays of intelligent investigation.

At the conclusion of the reading of Mr. BLAIN'S paper, the following discussion took place:

Mr. WILDER—I do not rise to get up any discussion, but I concur so heartily with that paper that I want really to express my feelings in public. The feeling of impure air, and so forth, rising from cemeteries, I have always scouted; I do to-day. As my brother referred to one or two who had taken in dangerous poisons, I will refer to one instance, showing the absurdity of such claims. I have a man who has been in the cemetery twenty-eight years. He has done nothing else but work in the cemetery, and he has done that kind of work that brings him in contact with the most impure part of it, removing bodies in various stages of decomposition, etc. And

further, until four or five years ago, there was a well in the cemetery. It contained excellent water. The directors ordered it to be filled up or disposed of in some way. Instead of filling it up, I took off the curbing, capped it over with stone and covered it up, and when it came to that, he mourned terribly. He asked me what that was done for. I told him, "They say that it is impure, and have ordered it closed up." "Bosh," said he, "I have drank that water for twenty-five years, and there is not a healthier man going." I speak of this simply as a single illustration, and to show the absurdity of the statement so generally made that people are devouring so much impure air and water that it is going to endanger their health. We look around here and see what there is in it. [Applause and laughter.]

The PRESIDENT—We do not look like dead men.

Mr. WELLS—So far as Greenwood is concerned, I am the only official on the grounds besides assistants and gate-keepers, and we must have fifteen or sixteen residing on the grounds. They and their families are perfectly healthy. You cannot find healthier people. As to grave-diggers, there are grave-diggers bent from long service. They have dug graves for forty years, and they are healthy old men. I do not remember a grave-digger dying a young man. They will keep on digging graves until we have to superannuate them. We have a few of those that go with messages around, they have been so long in our service. So I scout the idea entirely that a cemetery will contaminate the air around. As my brother BLAIN says, there is more contamination from sewers than from a hundred cemeteries. Nobody around there complains of being sick.

Mr. ROSS—I would like to ask whether, when a person dies with small pox, or diphtheria, or scarlet fever, or any contagious disease, the gentleman who last spoke considered it safe to remove that body.

Mr. WELLS—No sir; we do not allow that.

Mr. SCOTT—One of the healthiest men we have in Ann Arbor is the man who receives the subjects for dissection. He is one of the healthiest men we have.

Mr. BLAIN—I will tell the convention this little story: A clergyman once came to me who was a little solicitous about my health. "Sir," said he, "I would not like to have your position. The unhealthfulness of this cemetery must be trying on your health." I said, "Sir, do you know that the superintendents of cemeteries are outlived by only one class or profession, and that is the clergy."

Mr. SALWAY, of Cincinnati—In our cemetery I had the curiosity to have some of the water analyzed by a chemist, and the well in our cemetery contained the healthiest water in the whole neighborhood, healthier and purer than any of the wells outside. It was absolutely pure, so the chemist said. I don't think any contamination comes from the graves from the fact that there is very little in the human body anyway, and the decomposition usually is very slow. Old mother earth is adapted for taking up the particles and appropriating it gently, and unless there should be some very heavy rains, or a long protracted storm that would soak down enough to carry away something from the grave, I do not think there is any possibility of contamination. And even then I do not apprehend any danger. I think it is more a notion than a fact.

Mr. HIGGINS—Some years ago, at Woodmere, there was considerable excitement owing to a murder case, and the vicinity there was pretty thoroughly canvassed by reporters.

At that time it was reported that almost everybody



in the neighborhood was sick, owing to the drainage from the cemetery into the wells of the neighborhood surrounding. One of them took some water from the well that we had been using for the last eight years, and it was found to be as good water as they were getting from the Detroit River. So I would concur with the brethren so far as contaminating the water is concerned. Our experience would show that there is nothing of the kind. As far as the general health of our men is concerned, it is quite as good, if not better, than the people of the vicinity around them; and as for myself, I haven't

quite as many pounds as some other members here, but I am never sick.

In conclusion, it must be said, that before any good case can be made against interment on the score of health, there must be submitted facts in support of it of the most unquestionable character. Allegations born in the imagination will, in this case at least, have no weight on the public mind.

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### JAPAN ANEMONES.

The hardy plants of our gardens are in greatest profusion of bloom in the first month of summer. The spring opens with a good display of bulb bloom, and of the flowers of the earliest of the perennials; the latter increase in number as spring advances, and with the flowering shrubs this season of the year, with its new verdure, is made very bright. The climax with these plants is reached in June, although



WHITE JAPAN ANEMONE.

some herbaceous perennials and some of the flowering shrubs come along in the successive summer and early autumn months, so that, with the annuals, from which a wonderful display may be had, the bright season is carried along well into autumn, when on all sides we notice the preparation that nature is making for its long winter sleep. One after another the different kinds of plants cease their blooming and mature their seeds, and commence and show signs, by "sear and yellow leaf," of their resting stage. Some annuals help greatly in the autumn season to continue and extend the show.

In recent years the brightness of our autumn gardens has been greatly enhanced,



especially by three hardy plants, and although the whole world has contributed its floral treasures to our gardens, through the zeal of plant collectors and flower lovers, yet, strange enough, these three plants which so enrich our gardens at the close of the season are all natives of Japan. To that country we owe these treasures, the great flowering *Hydrangea*, *H. paniculata grandiflora*, Hall's Honeysuckle, *Lonicera Halleana* and the Japan Anemone, of which last we now speak more particularly.



ROSE JAPAN ANEMONE.

The plant is herbaceous, a tuft of leaves springing from its crown. These leaves are large, varying from two or three to six inches across, according to the vigor of the plant, supported on leaf-stalks of three to six inches in length, the plant thus standing from six to twelve inches above the surface of the ground. The leaves are palmate in shape, something like those of a grape-vine, and of a deep or dark green color. In autumn the plant sends up from its midst numerous leafy flower stems, bearing a profusion of blooms. The flowers are from two and a half to three inches in diameter. Usually, in dry seasons, these flower stems are from eighteen



to twenty-four inches high, but probably owing to the cool and moist weather of the latter part of the summer and during the fall, last year, it was not uncommon to find them standing at least three and a half feet in height, with the leaves very broad and large. A fine circular bed of the white variety, standing on a lawn was selected for photographing, in October last, and an engraving prepared from it is here shown. This bed was a splendid sight for many weeks, the flowers com-



ROOT CUTTING OF ANEMONE.

mencing to open in September continued into November. The white variety is the greatest favorite and most cultivated, although the rose-colored, or reddish one, is much admired. The illustration of this last has been taken from the *London Garden*, and shows the flowers in respect to size are alike. The plants do not appear to have a liking for any special kind of soil, but do well in any good ground, from sandy to clayey; they are suited with any well-cared for garden. The white variety is sometimes called *Honore Jobert*, but is more frequently referred to as *Anemone Japonica alba*; the other as *A. Japonica rosea*.

The roots of the plants develop buds, and throw up young plants all about the

original one, and these uniting form a large mass. Propagation is effected by the division of the clumps and separation of the plants. It can also be done in a still more speedy manner, by root cuttings. Plants taken up after growth ceases, in November or December, and have the roots shortened back; the prunings thus made can be cut into pieces about an inch and a half long and laid evenly on the surface of pans or boxes of finely sifted soil of loam and leaf-mold, and be covered about half an inch in depth. After watering set them in a warm place. After a few weeks the stems will begin to push through and send out leaves. In a short time they can be potted or transplanted. After this still keep the plants growing for some weeks, and finally harden them off.

The actual relationship of these varieties is a little obscure; whether the reddish one is a sport or a seedling from the white, or both derived from some other form, has not been fully determined; however, in neither case is there any particular deviation from the simplicity of nature.

The flowers keep well when cut, and the florist skillfully adapts them to his purposes in combination with others. Large clumps or masses produce the finest effects in the garden. As a cemetery plant the white variety is especially desirable.

### OUR COLORED PLATES.

The plate of *Roses* in last month's issue, of which no notice was made at the time, undoubtedly made its own impression upon our readers, and as truthful representations of the two varieties of *Roses*, mother and daughter, they probably spoke as forcibly of their own merits as we can hope to by any words. *Baroness Rothschild* was produced from seed by a French grower, *PERNET*, in 1867, and has become established as one of the best of the *Hybrid Perpetuals*. It is a free bloomer and the flowers of large size, of fine form, with pleasing shades of rose and pink. The *White Baroness*, like *Mabel Morrison*, is a sport from the *Baroness*, which came to light in England, with *PAUL*, the noted rose-grower, in 1882. In habit and vigor of growth, size and

fullness of flower, and in all other respects, save that only of color, it appears to be identical with the plant of its origin. It is a pure white, and these two varieties form a splendid pair.

The *Begonia*, figured this month, is one to which attention was called in these pages in the last February number, by our correspondent, Mrs. LUNEY, and its claims there properly set forth. The plant is a strong, vigorous grower, and can be trained into a large, bushy, handsome plant. Its very deep carmine flowers, so much brighter than the much admired *B. rubra*, and which it produces in profusion, make it a plant of great value for the greenhouse and the window garden. The plate well represents both the flower and foliage.



## A BEGINNER IN FRUIT-GROWING.

NUMBER 6.

More than one-half the failures in getting a "stand" of any kind of fruit are the result of careless digging and neglect while the roots are out of their native element. There is no class of planters who do their work so rapidly and with such seeming carelessness as nurserymen, yet their losses are comparatively small, simply because they know that the proper place for roots is in the earth, and take every precaution to make their condition when out of the earth as similar to the natural one as possible. In the earth the roots are moist and subject to very slow variations of temperature, and are also in darkness. As usually handled, these natural conditions attending the life of a root are all disregarded. The tree is rudely dug from the ground, where it has had a temperature of 40° or 50° for weeks, loaded on a wagon, exposed to a drying wind, a hot sun, carted for miles without even a blanket to protect it, then driven into a barn at night, with the thermometer at 28° the next morning, to stay on the wagon until weather and convenience permit planting. I knew one old farmer to keep a load of Cherry and Peach trees on his wagon in the barn for a week, without any sort of protection, through a snow storm, and then refuse payment because the trees nearly all failed to grow. He was so ignorant of the probable cause of the failure that he was going to stand a law suit, but his lawyer had some knowledge of horticulture and advised him to pay up, charging him \$5.00 for knowledge that the farmer of seventy years ought to have acquired by intuition, associated, as he had been all his life, with growing trees and plants.

Where trees are to be procured by wagon from a local nursery, the wagon should be furnished with a top box or side-boards, making a bed two feet deep and filled with short, wet straw or hay. On arriving at the nursery the straw should be moved to the forward end, leaving four or five inches on the floor of the wagon. When eight or ten trees are dug they should be as compactly tied into a bundle as if designed to be packed in a box. This is done by tying with strong twine or a straw band just above

the roots and midway of the tops. The bundle may be placed upright in a back corner of the wagon, and the roots protected by packing wet straw around them. In this way one bundle at a time can be added until the load is complete, and no tree be exposed over a few minutes.

Packed in this way, moisture, darkness and uniformity of temperature are all maintained to a degree closely resembling their previous abiding place, and can thus be carried, or stand in a barn, for several days with less injury than would result from a ten miles drive exposed to wind, sun and frost.

From whatever source trees are received, they should be unpacked at the earliest opportunity, the bunches separated, and each tree set in mellow soil to await final placing in the orchard. When so disposed of a sudden change in the weather need cause no anxiety, as the tree with its roots in contact with fresh soil is simply going through the same processes that would be gone through with if permanently planted out, and when carefully moved, a week or two later, these steps in growth will not be materially interfered with.

The same is true of small fruit plants. I have for years made it a practice to dig all kinds as early in the season as possible, and trench them into the earth at once, to remain until planting time; when each plant, covered with a network of fine rootlets, is in the best possible form for immediate growth.

Where plants are home-grown, and one can follow the best method, the first to be dug should be Gooseberries and Currants; then Blackberries, Strawberries and Raspberries, in the order mentioned. At this writing, February 18th, I have already commenced to dig and trench in Blackberries. They will also be planted first. Raspberries I do not dig until they have made a green growth of two or three inches; then they are taken up with the adhering earth, put into bushel baskets, and taken at once to the new plantation and planted. Strawberries will be trenched in little trenches about eight inches apart and ten feet long. The plants will stand at the rate of fifteen or twenty per twelve inches of trench.



At each end of the trench I lay a piece of fence rail six inches high, and across these, and parallel to and above each row, a rail. These, after a day or two, are spread farther apart, and in the course of a week entirely removed. The Strawberries do not wilt under this treatment, and may be transplanted at any time when the ground is damp, without losing a plant. I would rather not have a Strawberry plant kept in a cellar even one night, yet it is the practice of many growers to keep large quantities in this way for weeks and fill orders therefrom. Nothing is more destructive to the health or vigor of Strawberry plants than storing in the cellar. The cellar has no points in common with the natural condition of the Strawberry plant, and keeping them there a few days produces a dropsical condition that proves fatal when the plant is set in the open air and bright sunlight. I have sometimes thought that the growers of new varieties were cognizant of this fact, and kept their plants in the cellar purposely that the purchasers might not have so many plants the following season.

In digging Strawberry plants I first spade up a few hundred, setting the chunks of earth on the ground just spaded. The earth is then loosened and the plants thrown in a loose heap and then trimmed, the roots turned one way, the trimmed plants being kept in the left hand.

If the plants are sold a string is tied around each bunch, and the plants are set, leaves upward, in a market basket until full. If for home use the plants are placed in the same way, but not tied. Thus packed, the basket can be dipped up to the crowns in a trough of water, then set away in the shade a few hours, if necessary, to await trenching, planting or shipment.

For planting all kinds of berries I use a piece of wool twine, twenty rods long. Tags alternately of red and black yarn are sewed in every sixteen and one-half inches, and Strawberry plants are planted at every mark, with a bricklayer's trowel. Raspberries and Blackberries are planted at every other mark, and the difference in color prevents confusion.

L. B. PIERCE.

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## THE ARALIA TREE.

The particular tree of which I write is about thirty years old, having stood where planted through storm and sunshine, through wind and calm, until it has reached the respectable height for this class of tree, of about eighteen feet. At short distances there were thorns or prickles in rows around the trunk, but as the tree grows older and stretches up taller, these only leave a circle on the bark, showing where they were, but above, on the limbs, they are much nearer, and on the new growth are very prickly. The bark is of a dark grayish color, with marks and seams of a lighter shade up and down its surface, and yet is firm and compact, as it grew rapidly to cover a large place which, by a thoughtless person, was barked some years ago, and which is entirely whole again. The branches are crooked, jutting out wherever it pleases them best, without any order or grace and symmetry, where it stands outlined against the sky in its bareness, and it has often been called a club tree on account of this peculiarity

and the shape of the limbs. It is later in leafing than most other trees in the spring, and presents an unusual appearance. The leaf-buds starting at the extremity of each club-shaped branch, which did not look capable of producing leaves, and with seemingly no possibility of the tree ever being covered by them. But once begun they proceed rapidly, growing and expanding under the genial rays of the sun until they form large decompound leaves, partially drooping over the branches, and the tree is graceful, indeed, when clothed in its green, leafy dress, and in the middle of August, when in full bloom, with umbels of delicate white flowers spreading out over the dark foliage, it is pronounced a beautiful tree.

The flower-buds start, as the leaves did, from the end of the branches, each floret star-shaped, and arranged in fives, and in such numbers as to make one stalk a wealth of beauty, and sweetness, too, if we may judge from the attractiveness to the bees, who come in swarms,



keeping up such a constant humming while gathering the nectar from the blossoms that the tree seems like a huge beehive for about two weeks. But the crowning glory is when these are changed into dark purple berries, hanging in such large clusters over the foliage which has begun to put on some of the sober autumn tints. These are in all their richness by the first of October, and are very attractive to the birds, which take the place of the bees. The blue jay, coming in the early dawn, before sunrise, evidently to be the first on the ground to obtain his share. But uttering his shrill cry of triumph at his good luck, he awakens the other birds, which, with a flock of English sparrows, scolding and chattering, come to join in the plunder, and he, disgusted, flies away to repeat his effort the next morning, with the same result. But there is enough for all, as they last some time, and when plucked leave the scarlet stems, which match the leaf-stems, bare in the autumn sunshine.

The leaves fall soon after, and the ground is covered with their large, branched stems, and the tree stands defiantly brandishing its clubs until another warm and gentle springtime woos it into beauty.

The seeds produce new trees, which may be easily disposed of if not wanted, as merely breaking the tender top is sufficient, as they soon wither away. They start from the ground in a club-like shoot of green, covered with prickles, and grow to some height before branching, these giving it the name of the Prickly Aralia. It is also called Angelica Tree, and while cultivated here it grows wild in the warm sunny south.

But this tree is one of the landmarks, being the only one in the place, and having stood near the street so many years, and observed by the passers-by in all its changes, has suggested many questions as to its name and peculiarities, and it affords food for pleasant reflection throughout the different seasons.

EVALYN.

## INTRODUCTION OF THE BERMUDA LILY.

Who can measure the pleasure given by a beautiful flower? Who deserves more grateful remembrance than one who, through love alone, brings to our fair land the choicest growths of other countries to beautify and gladden our own good homes?

The fairest of Lilies—the pure Easter Flower—the Bermuda Lily—was first brought to America from the island of Bermuda, in 1876, by Mrs. THOMAS P. SARGENT, wife of THOMAS P. SARGENT, Assistant Purchasing Agent of the Pennsylvania Railroad.

When she was leaving the island, in the spring of that year, two friends residing there gave her a few of the Lily bulbs. Upon her arrival at her home she presented some of them to Mr. ROBERT CRAWFORD, a near-by florist, who, about a year later, sold the increase to

Mr. WILLIAM HARRIS, of Philadelphia. He began growing the bulbs and offered them to the public, with the addition of his name, as the *Lilium Harrisii*.

Mrs. SARGENT was an invalid for many years. Her home, in the suburbs of Philadelphia, was a center for all that is lovely in plant growth, and her life was as beautiful and benificent as the choice flowers with which she surrounded herself. For her loving devotion to their culture, the bountiful giving of her treasures to hospitals, flower-missions, the sick, and hosts of friends, her name should be canonized among the saints in flowers. She is now where Lilies bloom as the emblem of purity. No more fitting remembrance could be chosen to keep alive her memory than in giving her name to the flower of her adoption.

CHARLES McILVAINE.

## EIGHT-ROOM HOUSE WITH CONSERVATORY.

The object of this house design is twofold: first, to show a very pretty and convenient arrangement, and, second, to show how flowers may be kept without risk of

freezing in winter, or starving for want of sunlight in summer.

The house, although it contains eight large rooms, and is of imposing appear-



ance exteriorly, is in reality very economical and cheap, the floor plans being so nearly square. Sliding doors connect the main rooms down stairs. The front and back stairways form a "combination stairway," thus saving space, the toilet-room between the kitchen, dining-room and reception hall, is equally convenient to all. Pantry is well located and large, chambers are good size with plenty of closets, bath-room is so arranged that the plumbing is very compact, the cellar is under the whole house, splendid veranda, one part being ten feet wide. The effect of this design is obtained without cutting it up with balconies and bays, which are very expensive. One of the prettiest features of the design is the conservatory, just off the reception hall and partly separated from it by the stairway; this stairway is treated in open work, affording a beautiful view from the parlor.



Now comes the old trouble of fire going out and the plants freezing; but we have solved that problem. You will notice only one chimney, and that is all that is necessary. We propose to use a system of hot water heating, in which, if the fire should go out, there would be enough heat retained in the radiators to save our flowers. This is a very economical system of heating. The writer heating his house of seven rooms for about ten to fifteen cents a day, with soft coal at two dollars per ton. The windows of conservatory are arranged for extra sash to be put in during the winter, the floor is tinned to allow for watering plants. All these things are within the reach of those of limited means.

This building complete, heating and plumbed, would cost \$2,800.00, and could probably be built for less than that by using cheaper material. If the house plans should not agree with your idea do not give up the flowers, for these same features may be applied to any plans. Plans furnished, and any information cheerfully given by addressing the architects.

SMITH & ROBINSON, Altoona, Pennsylvania.

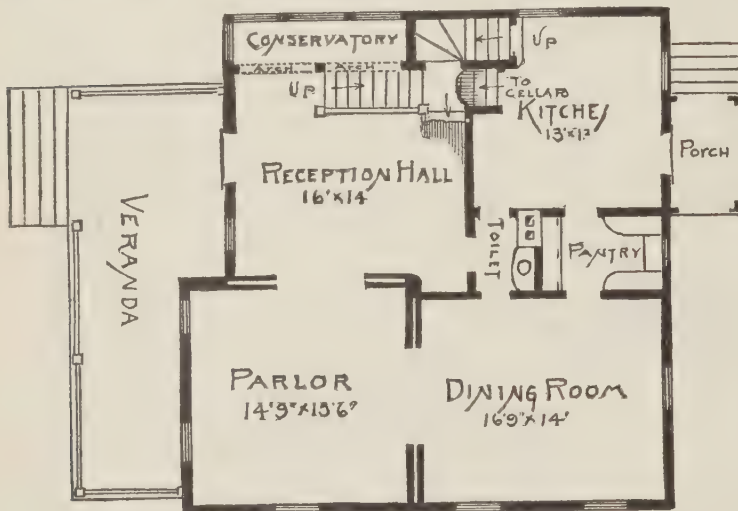


## PHYLLOCACTI.

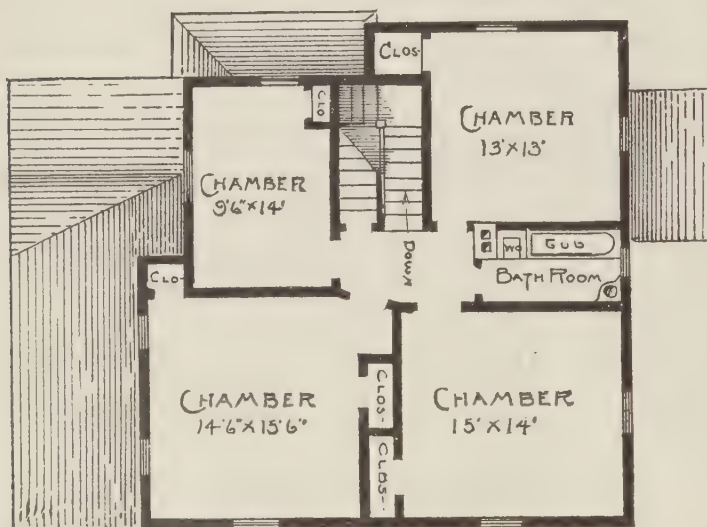
There are many people who object to growing Cacti on account of their prickly spines and thorns, the age to which many must attain before blooming and their odd, grotesque, not infrequently called ugly, shapes and forms of growth. In the *Phyllocactus* all these objections are removed. When mere bits of plantlets they begin to bloom, and may be had in bloom three or four months of the year by keeping plants in different stages of growth. This species blooms more freely than any other among Cacti, and its blooms are very large and showy, often measuring eight, ten and twelve inches across, and is literally covered, in blooming time, with its

wonderful deliciously fragrant blossoms. It is not infrequently found that large, well grown specimens bear from one hundred to two hundred of these great flowers and buds at one time.

The plants are spineless, and their growth of low, flat, gracefully curving leaves is not at all awkward. They will bear as much neglect as a *Pelargonium* without grumbling—are tucked away in some odd corner when out of bloom, and given only an occasional watering to keep them from drying up; yet when restored to light and favor, again send out their glorious flowers. They are easily increased by means of cuttings, which should be thick and fleshy, inserted in sand that is almost dry, and kept in a warm place for a week or two. The soil in which they are to be potted is best made up of turfy loam as foundation, with modicums of sand, leaf-mold, charcoal and fertilizer from cow-stalls to make it light and rich. The pots must also be well drained, as none of the Cacti will endure even an approach to sour soil. *Phyllocacti* are splendid window or



FIRST FLOOR PLAN



SECOND FLOOR PLAN

conservatory plants, and even in houses with no artificial heat at all will grow and bloom, but they want a place close to the light in blooming time, and all the sunshine they can get, and in moderately heated houses do their best. When the plants grow large and heavy, it is best not to repot them often, they are like Lilies in this respect, and do not like to be disturbed for a number of years. So the soil is kept up by coating the tops of the pots with a mulch of fertilizer.

The blossoms—the lighter colored ones—always remind me of Water Lilies, especially *P. latifrons*, which is a night bloomer. Its petals are delicate creamy white in color, while the sepals have a tawny, reddish tinge; this is one of the largest of the *Phyllocacti*, and makes a very strong growth. It is sometimes called the Queen Cactus, and is truly a royal blossom.

The scarlet, pink and cream-white flowered varieties are handsomest, to my mind.



Conway's Giant has enormous scarlet flowers, and *Kermesinus magnus* is not far behind it in size and brilliancy of coloring. *P. crenatus* is beautiful rose color, as splendidly dainty as a flower can be. *Roseus superbus* is a little darker in color. The violets, yellows and purples I cannot admire so much, although they are among the rarer sorts. *P. Teltanus*, among violets and purples, is

considered very rare and fine; near the same shade, *P. Alexandrina* is also much admired. *P. Wraai* and *Pfersdorffi* are both yellow and large flowered, the latter exceedingly rare.

It is so little trouble to grow Cacti in our Southern States that they, and especially *Phyllocacti* ought to abound everywhere.

L. GREENLEE.

## TUBEROSE ON ROOFS.

Many small growers living in flats, and gentlemen whose offices are at the very top of five or six-story buildings, and who would really be glad to grow a few pots of plants of some kind on the roof besides Cactuses, may be sure that the Tuberose will meet all their wants, if so be beauty of flower and perfume is most to be desired, for, as the poet, SHELLEY, says,

\* \* \* "the sweet Tuberose,

The sweetest flower for scent that grows,"

fully expresses the feelings of us all when we have a well grown specimen plant of the delicious Tuberose, we smell it and then we simply adore it; but to buy a sprig for five cents, on the street, and take it home and place it in a vase of water can give no idea of its capabilities "for scent," even then the house will be filled with the odor of it. The forced flower is not so delicious and crisp as the home grown, sun-hardened flowers. An English friend, who now has a large estate and cultivated garden, says, "When I was a boy, and resided in the Bank of England, my garden consisted of a few pots on the best flats of the roof. Nevertheless, my Tuberoses attained to perfection, evidently liking the thorough baking they got in that situation." Tuberose is not so much a favorite in England as in Paris, however, the dampness and fog not helping its growth into flower, the buds damping off, which is disappointing. Although, almost without exception, every one knows the flower by name, as its sweetness renders it very popular, and its cheapness puts it within the reach of all, yet every one cannot grow it in pots, and as I have learned, years ago, partly by the instruction of friends, and also much by experience, I would, through this article, communicate my methods, in hope that many who read

your MAGAZINE will treat themselves to a few pots of the waxy beauties, especially the "stay at homes" this summer. It is really a diversion to watch the growth of a few plants that are not sickened by the heat, like ourselves.

Early in spring, March or April, get your bulbs, and after removing the side bulbs, if there are any, and smoothing off the base of the bulbs in preparation for the feeding roots, lay them in a box or any thing that will contain them, and put them on the mantel shelf, to remain about a fortnight, to warm through, the heat of the stove will not injure them. Turn them over from time to time, afterward take pots, common crocks, well warmed, or soaked in hot water, of a size that will just hold the bulb, and sift in soil got from the florist, the soil also warmed, all that can be got in between the bulb and side of the pot, not covering the crown of the bulb. Set these pots on the mantel, or round the pipe until they start; do not water at all. As soon as a shoot shows itself water daintily near the pot. When the shoot is vigorous remove to the sunny window, but protect from winds and cover nights, or put back to the stove, water more; I soak in quite hot water, not just boiling. When this pot is full of roots I shift to a six-inch pot, there to remain to bloom. I fill it with florist's soil, and water just to keep damp until the heat sets in, then give plenty of water, and when buds appear feed a little with safe fertilizers, ammonia is good, tie to firm stakes. By this treatment an early bloom is sure. Four pots is a good number for a beginner. The environments of city gardens are damaging to its most successful bloom; but there are no failures in pots with the above treatment.

M. EASTERBROOKS BLAISDELL.



## FOREIGN NOTES.

### CINERARIAS.

The improvements effected in Cinerarias is little short of marvellous, the flowers having increased in diameter to three inches, whereas it was usual to have them only half that size, and the habit of the plants is much better than it used to be. The heads of bloom, although large, are not coarse, and the petals broad and well defined, and of great substance, and of beautiful markings, and the selfs are of rich and varied colors. Not only has this advance been made in the single-flowered varieties, but the double flowered varieties have improved. These are doubtful gains to the gardener, although they may be useful for bouquets, and to make variety, and last much longer in the cut state. To perpetuate these, and any single flowered variety which shows merit, take care of the plants after they have flowered, and encourage them to make side shoots, which may be done by turning them out of their pots, and planting them pretty close together in leaf-soil, and sufficiently deep to just cover the ball. This will cause them to make fresh roots and growth, and as the suckers throw up, they strike into the leaf-mold, and may then be taken off ready rooted and potted. To slip them off from the crowns without injury is better done with a knife, giving a downward cut, and raising the lower end. After a sufficient number of suckers have been taken, the whole root may be taken up, and the side shoots pulled off, and repotted at once in small pots, and stood in a pit or frame kept close for a week, and where they can have a little warmth, and plenty of atmospheric moisture.

**Sowing Seed.**—In filling a seed-pan, let it be well drained, and finely sifted leaf-mold and loam, in equal proportions, adding a sprinkling of sand to it, and press it down firmly and evenly. Then water the soil with a fine-rosed pot, and after the pan has stood a short time, the seed may be scattered thinly, and a slight portion of silver sand sifted over it. If the pan is then covered with a sheet of

glass, and stood in a warm house or frame, the seed will soon germinate, when the glass should be tilted for a day or two, and then removed, the best situations for the plants afterwards being a light shelf in an intermediate stove. When they have been pricked off into pans or boxes, put them into a frame which has gentle heat from fermenting material, or failing that, any pit or light house where there is artificial warmth and moisture. An ordinary garden frame stood in a partially shaded situation on a coal-ash bottom, with its back to the sun, will be the best place for growing them in the summer months. The plants should be frequently sprinkled and afforded full ventilation. The night dews are very beneficial, and when the weather is favorable, the lights may be taken off the frame at night and at others be tilted, remembering that a close atmosphere in the frame will cause mildew. To prevent any check during the plant's growth, it is necessary to repot the plants before they get pot-bound; seven or eight-inch pots are quite large enough for the strongest, and six-inch for the rest. The soil most suitable for Cinerarias is fibry loam, leaf-mold, and a little mild, very rotten manure, in which mixture they should be potted firmly, and immediately well watered to settle the whole. As the plants are very subject to green-fly, it is necessary to keep a close watch on them, and to fumigate now and then, even if no insects are seen; but it must be done with care, as they will not stand much smoke, and a safe way is to give them a whiff at night and again in the morning. Cinerarias are also sensitive to frost, and though a low temperature suits them best, they quickly show the effects of the glass running below 32°; but anywhere a few degrees higher than that and 45° is safe for the winter.

J. S., in *Gardeners' Chronicle*.

### CHINESE SACRED LILY.

We have noticed the following peculiarities. Bulbs grown in gravel and water flower some four days earlier than the



bulbs grown in mold, in all other respects treated alike. Another peculiarity of this variety is that the offshoots are the first in all cases to flower before the main stem. Although this variety of *Narcissus* is indisputably connected with forms already in existence, it appears to possess a distinctiveness, by reason of its floriferous habit, as well as by the delicacy of the odor of the flower, and the public, who have grown them, so far as the reports sent us are concerned, appear to be very pleased with the plants, as being specially adapted for drawing or living-room cultivation.

JAMES CARTER & Co., in *Gard. Chronicle*.

#### ABRUS PRECATORIUS.

This plant is now being sent out in this country as a "Weather Plant," but purchasers will not be apt to find themselves more weather wise when in possession of it. On account of the recent reputation of this plant, a series of experiments have lately been conducted at Kew, to ascertain what effect the weather might have on it. It was ascertained that the changes of weather did affect to some extent the movement of the leaves of the plant, but not so that any definite weather rules could be adduced. Says the *Journal of Horticulture*: "The prognostications of the meteorological office have frequently been the subject of satirical comments, but those of the *Abrus* are certainly less reliable." Undoubtedly the variations of moisture in the atmosphere affect the petioles, causing the leaf movements.

#### A CARGO OF CATS.

There has just arrived from Alexandria at Liverpool, by the steamer "Pharos," says the *Daily News*, a consignment of nearly twenty tons of cats, numbering one hundred and eighty thousand feline

species, taken out of an ancient subterranean cats' cemetery discovered about one hundred miles from Cairo by an English fellah, who accidentally fell into this cats' cemetery, which he found completely filled with cats, every one of which had been separately embalmed and dressed in cloth after the manner of Egyptian mummies, and all laid out in rows. Specimens of these have been taken by Mr. MOORE, Curator of the Liverpool Museum, where they can be seen. In ancient times the Egyptian cat was buried with all honors, but those consigned to Messrs. LEVINGTON & Co., of Liverpool after being purchased in Egypt at £3 13s. 9d. per ton, will be used in this country as manure. The Curator of the Liverpool Museum fixes the date of their interment two thousand years before CHRIST. *Journal of Horticulture*

#### DRACÆNA LINDENI.

This makes a fine exhibition plant, and has great value for general decorative work, being especially useful for single specimens in vases. It is of recent introduction, and does not differ in its growth from the *D. fragrans*, but the broad arching leaves of green are beautifully ornamental with a wide margin of creamy yellow, which gives to the plant a very attractive appearance, and places it in the front rank of variegated plants. It is propagated easily by the usual method of layering or cutting up the canes; but to make good specimens, fit for exhibition purposes, the heads alone must be used, and these with care will make a fine crop of roots in a few weeks without the loss of a single leaf. *D. Massangeana* makes an excellent companion plant for the foregoing, only differing from it in that the variegation runs through the center of the leaf instead of along the margin. *Journal of Horticulture.*





## PLEASANT GOSSIP.

### HOUSE PLANTS IN SUMMER.

Will you give, in your next issue, some directions for the care of house plants during the summer?

My collection is, I imagine, quite an ordinary one. Azaleas and Begonias that have bloomed and been a great comfort. Ferns and Ivies and bulbs I started in the early fall, with slips of Geraniums and Carnations, hoping to have young, strong plants for the late winter blooming. They have done well as slips, but are still only well started slips. I have been learning since, that for bloom I should have had older plants. With proper care through the summer, will not these same plants give me good bloom for next winter? Would it not be better to leave all house plants in their pots and sink them in the earth? Would not that keep the roots more compact, and when repotted, in the fall, would they not feel the change less than to be compressed into a pot from the open ground? Do the young Geraniums and Carnations need to be cut back when put out, as I have been told to do with older plants.

Do Azaleas and Begonias need cutting back? Would it be wise to pinch off all buds from house plants during the summer? I do not care for the summer bloom, as we are away from home. I want only the proper care to give me good winter plants. I think many of your subscribers, especially city people, would find this information valuable.

My collection of bulbs I shall first dry off, and plant in the open ground next fall, and get a new supply for the house. Is not that the best plan?

Young Callas taken from the parent bulb this winter should not be dried off, I suppose, but allowed to grow all summer. Will you tell, also, whether Fir tree oil would be a good thing to use on Rose bushes to prevent insects? I am only a beginner, and have not more than a dozen bushes. Last year the bushes, just set out in the spring, had been doing very nicely when suddenly the leaves began to disappear. They did not drop, but became riddled, finally leaving only the skeleton. New leaves seemed to be coming all the time, as if the vitality of the bush was not injured. I was away when this process began, but when I looked I could not find any insects. I got whale oil soap, and used it according to directions. This blackened the remainder of the foliage, and my bushes did not amount to anything afterward. I was told afterwards that I ought to have washed off the whale oil soap solution.

This winter I had a handsome Fern attacked with red scale. It was literally covered when I discovered it. I cut off and burnt the worse leaves, and fairly scrubbed the rest with a solution of Fir tree oil—two tablespoonfuls to one-half pint of water. It was very effective. After two or three hours I sprinkled the Fern with clear water. No scale appeared for four or five weeks, then just a few, and I repeated the treatment.

Would such treatment do for Roses? Could it be applied early enough in the season to prevent trouble? Could it be sprinkled on with sufficient effect? It would be much harder to apply it with a brush. My Fern was of such a solid texture it would

bear rubbing. Would the drippings be bad for the soil around the bush, or would it be beneficial? Ought it to be washed off afterwards, or is it harmless to the plant.

One more question: Can you advise some running vines or climbers for a porch where the earth does not get the sun? The sunlight comes through from the south side of the porch, and would give warmth to the vines after they got up a couple of feet, but the roots must always be shaded. Both east and west are shut off. On the west is a very high stone building, and the sun rests on it a good part of the day, making a pretty strong reflection. But our last wet summer left this bed pretty damp all the time. I would prefer permanent vines, but even annuals would be better than nothing. It looks so lopsided to have one side of a porch covered luxuriantly and the other side bare.

I hope I have not taxed your patience. I was encouraged to ask your help from a little statement in the January number, asking to hear from those who had difficulties to state or successes to record.

MRS. E. L. B., *Philadelphia, Pa.*

To help its readers is the aim of the MAGAZINE, and we suppose it is generally understood that questions in its proper line will always receive attention. No one need hesitate to inquire in regard to any point in horticulture on which information is desired.

The young Geranium plants started last fall will make excellent plants for next winter's blooming, if properly cared for. The object should be to make the plants strong and with a good framework of branches. And to form this it is necessary to stop the shoots, as it is called, from time to time, that is, to pinch in the soft points of the shoots, thus making them push more buds and form more branches. For full instructions on this point we would refer to Volume 3 of this MAGAZINE, page 318, and also Volume 10, page 264. When the young plants have pushed their roots to the sides of the pot they should be shifted into pots of a size larger, giving them good rich soil. About the first of June they should receive their last shift, either into four or five-inch pots, according to their size. By the first of July the pots can be plunged below their rims in the open border, and be cared for there for the rest of the season, and until the latter part of September, when they can be



taken inside. Some coal ashes placed beneath the pot in the garden will obstruct somewhat the passage of earthworms. To get the strongest growth all flower buds can be removed from the plants while outside.

Whether greenhouse and window plants in general should be kept in their pots or turned into the open ground for the summer, depends upon what is desired of them. Probably most plants can be trained into better form in pots than in the open ground, and if one does not care for the labor, but seeks the best results in the form of his plants, continuous pot culture is best. But to lessen labor most gardeners now turn their greenhouse plants out of pots and into the open border for summer, and repot about the first of September. As a rule, plants are cut back when so turned out. Azaleas may need attention to pruning some little time before they are put out. We prefer to plunge the pots of Azaleas in sand in the garden, and not to turn them out, though some gardeners do so. Before these plants are turned out, and when they have done blooming, the weak wood can be cut out and the shoots shortened, and a top-dressing of about an inch of fresh soil be given.

The treatment proposed for the bulbs is proper.

The Calla bulbs can be planted out for the summer.

As to the Rose plants, whether the injury to the foliage was caused by the rose slug or the rose-hopper, whale oil soap is the proper preventive, but should be applied with a syringe with a bent nozzle, so as to reach the under surface of the leaves. One pound of soap to eight gallons of water will make a suitable solution, and one which will not injure the foliage. It is well, however, to go over the plants after a few hours and syringe them with clear water.

Fir tree oil is good for the scale insects, but there is no necessity for its use on Roses.

Without knowing more of the character of this shady place where the climbers are wanted it would be difficult to advise. Some of the most vigorous climbers are the Virginia Creeper, the Climbing Bittersweet and the Trumpet Vine. Plants of these might be set at the spots where the vines are wanted,

and if they grow well, the question is solved; but if the spot is such that their success is doubtful, then, although it may be well to try them, others can be set at the same time in some other spot, not far removed and that is suitable for them, and the stems be trained to the places where shade is desired.

### SOME NATIVE PLANTS.

I see in the February number of the MAGAZINE a query about the Partridge Berry, by Mrs. MARSH, of Ohio. I always read with interest any thing concerning our wild beauties of the woods. I send you a specimen which was gathered about the second week in November, and has been growing ever since in a hanging basket along with *Tradescantia*, and seems to withstand the heat and dust, for we burn coal, even better than that plant, and every one knows its accommodating habits. There is nothing to me prettier than the bright scarlet berries peeping out from among the green, purple and silver stripes of the Jew, as it is usually called. The Partridge Berry grows luxuriantly here in our woods, generally near streams of water, and it presents a beautiful sight in the fall as it carpets the ground with its maze of green studded with gems of scarlet. It is one of my favorites among the many wild beauties of the wood, in fact, I am partial to almost all scarlet colors, whether of fruits, flowers or fabrics.

A correspondent in the December number says the bloom of the Partridge Berry is white, but with us it is a light purple; it is variously called Partridge Berry, Turkey Berry, Wintergreen, Ground Ivy, etc. The Cardinal Flower also grows well here, besides many others I do not know the names of. We have a beautiful wild flower growing in the mountains of Virginia, my native State, which is called *Stephanotis*, but from a description of a wild flower in the December number, in "Garden Spoils from Autumn Woods," I think it is *Eupatorium ageratoides*. I looked in the catalogue for *Stephanotis*, but failed to find it. I would like if you would describe *E. ageratoides* and *Stephanotis* in your next MAGAZINE. MRS. J. V. R., *Columbus, Ga.*

The *Stephanotis* is a climbing plant belonging to the order *Asclepiadaceæ*. There is no species of it growing in this country. The one in cultivation as a greenhouse plant is a native of Madagascar. The flower is white, tubulous, fragrant, about an inch long.

*Eupatorium ageratoides* is a native Composite plant, with wide distribution in this country; grows from two to three feet high, bearing a corymb of numerous small, white flowers in August and September.

### TESTIMONY AND QUERY.

Thanks to SISTER GRACIOUS, in the March number for 1890. "Amaryllis bulbs should be planted on top of soil" saved my fine bulb and the seventy-five cents which I paid for it. I have had it under ground and did not know any better. Your book is invaluable. Have been its reader for four years.



Words are inadequate to express my appreciation of it. Why do not ladies write more letters of inquiry, of failures and successes.

Do Calla Lilies bloom less as they grow older? Should they be repotted every year? Will they bloom without boiling water in the saucer? Some one wrote, in your MAGAZINE, that they required every morning such a bath in a saucer. Please tell proper treatment. D. A. G., *Stanhope, Mo.*

The tubers of the Calla, Richardia, continue to produce bloom plentifully for a number of years, but in time commence to fail. A stock of young and vigorous plants can be kept up from the offsets produced annually by the old tuber. Every year, after the blooming season is past, the plants should be allowed to go partly dry, reducing the water week by week until they come to a state of rest, or nearly so. The plants can be kept in the pots, nearly dry, during summer, or a better method, and requiring less care, is to turn them out of the pots and set them in the garden about the first of June, and leave them there until the last of August or first of September; then lift them, repot in fresh soil. At the time of potting take away all the offsets. Boiling water, or even warm water, is not needed to place in the saucer of the plant; few ever use warm water, although some claim that they succeed better with it. A plentiful supply of water is required during the growing stage, and those who are interested in giving warm or hot water are probably so attentive to the needs of the plant that it is never allowed to go dry, and this may be the cause of greater thriftiness which is attributed to the higher temperature of the water.

#### TUBEROSES.

Why will Tuberoses bloom but once? N. A. O.

The only answer this question admits of is that the force of the bulb is spent in sending up one spike of flowers and producing some offsets around its base. The bulblets require a year or two's growth to attain blooming vigor, and after the crowning act is performed and some little tubers have been produced the old one dwindles away. We see something similar in this respect in *Gladolus* corms which bloom, and at the same time produce new corms from the upper surface. In both cases the younglings, no doubt, derive their nourishment from the old plants, which thus sacrifice themselves for their posterity.

#### THE NUT FAMILY.

While the edible fruits, in all their varieties, are advancing rapidly, there seems to be not enough attention given to our nut-bearing trees.

A few years ago a friend in Illinois sent me a few nuts that he thought a hybrid between the Hickory and Pecan nut. I was of the same opinion, and sent friend FULLER some, who expressed the same belief. Some grafts were sent me, and now I have two trees of the common Hickory nut grafted with it, that promise to bear in a few years.

A year ago I discovered another hybrid, not far from here, in which the male was undoubtedly a Pig Hickory, as the fruit is bitter and of no use except as a curiosity. A few months ago I learned of another, on the south side of the Missouri River, four miles away, but on sending there for some grafts, the tree had been undermined and fallen into the river. A few days ago I received a few nuts of a hybrid from Illinois, the largest of the kind yet received, with promise of grafts. The donor went twice to the place, but the overflow of the stream where the tree stands prevented getting across.

The writer states that the tree is on the edge of the river bank, and is in danger of being washed away at anytime, and quite recently a prominent horticulturist in Michigan tells me another has been found that beats the others, but the owner is anxious to keep it unknown until he has propagated it. Through a medium I have urged him to send me a few grafts, and I will keep it close, as I think I can now graft it with pretty fair chances of success. Out of hundreds of this kind of grafting but three are growing; but last season I struck upon a plan that promises success.

A Shellbark near here, lately discovered, may prove worthy of attention. With these and the improved Chestnuts the coming generation may be favored with what we know little about.

Our Peach and Cherry blossom buds have got their death blow in the last cold spell. Grape vines seem to be all right, and the Apples are unhurt.

I may send you a few of these nuts, one of these days, if they have not been all sent off already.

S. MILLER, *Bluffton, Mo.*



## DISCUSSIONS AT THE WESTERN NEW YORK HORTICULTURAL SOCIETY.

The remainder of the discussions of the Western New York Horticultural Society, which, for want of space, were omitted in our last issue, are here given:

Mr. P. B. Crandall, of Ithaca, read a report from Tompkins county, which opened with the statement that the season of 1889 had not been a successful one to the farmer. The fruit crop had been very light, and quinces suffered from twig blight. The increased acreage of grapes was becoming an important factor, while that of strawberries had gradually diminished. Farmers' institutes are doing much for the dairy interests of the State, and the different meetings which have been held had done much to improve quality and cheapen production, and he thought fruit-growers' institutes would be equally beneficial. In referring to the putting up of fruit for market, he said that size and quality should be the distinguishing marks, which would require that apples and pears should be counted, the same as oranges were sold. A fruit-packing association for Western New York, with headquarters in Rochester, could do much towards creating a standard and improving the manner of putting up fruits. He advocated the grading of cheese and butter as well as fruit, and the establishment of brands, so that buyers could recognize the quality of the article.

Mr. S. D. Willard emphasized the importance of grading fruit. He would no more put a second-class pear into a package marked "first-class" than he would put his finger in the fire. His fruit was sold entirely on the reputation of the brand.

### THE CLEMATIS DISEASE.

Prof. J. H. Comstock read a very interesting paper on this subject, and several illustrated charts served to add greatly to the instructiveness of it. The roots of the plant are eaten by thread-worms, which cause an abnormal growth of the roots. The range of the plants affected by this worm is very great. It is estimated that it eats the roots of 75 different plants. In fact there is scarcely a plant on the roots of which this worm cannot live. It infests the roots of nearly all vegetables in the garden and the depredations are most serious. Prof. Comstock recommends careful selection of soil in planting flowers and vegetables, and the thorough cleaning of pots and boxes when transplanting plants.

Mr. Bronson asked if the insect was prevalent upon plants that had become established.

Prof. Comstock thought such plants should be strong enough to withstand it. Serious results followed the planting of clematis on old asparagus beds.

Mr. Lamb asked if they penetrated the roots of young fruit trees.

Prof. Caldwell replied in the affirmative, and added that the woolly aphis made root galls, but he had heard more of this trouble in the South. He had never investigated the woolly aphis very thoroughly, but he had tried to destroy it upon trees in old grounds and found that it cost more than it was worth.

Replying to inquiries regarding the insect in clematis, Prof. Comstock said its life was short, but it was difficult to state how long—probably about a month or six weeks.

Mr. J. G. Glenn asked if clematis growers had noticed whether the disease had attacked the native

varieties, such as Virginiana or Coccinea, as much as the imported one.

Mr. Robert Ades had Coccinea and Crispa near to other varieties and had discovered no disease. At one year old the disease was not prevalent.

Prof. Bailey said that tomatoes, cucumbers, etc., grown under glass, were apt to be attacked by root galls. He lately received a sample from a man who had lost a whole house full of tomatoes. Cucumbers were liable to be taken off every winter. This was a new class of animals and seemed to open up a new field and a whole new science. The soil must be changed, taking everything out of the house and place an application on the benches, as recommended by Prof. Comstock. It was a much safer plan to raise plants in boxes or pots, and then the pests could be controlled.

*Have any varieties of peaches been more exempt from damage by freezing than others?* was asked by Mr. Snow.

Mr. Willard thought so, after an experience of five or six years with Early Rivers; he believed it had a hardy fruit bud and would stand more cold than other varieties. Hill's Chili and Jaques Rareripec were others.

Mr. Rupert said that Early Rivers and Hill's Chili bore good crops with him when other varieties failed.

Mr. Arnold would add Hyne's Surprise, proving very hardy, early, and absolutely free-stone.

*Is there a blackberry hardier and better than the Snyder?*

Mr. Willard mentioned one that he had obtained in Wisconsin, named Early Barnard, which he was much inclined to believe to be the old Ancient Briton. It was fully as hardy as the Snyder, and stood cold as well, when Early Harvest, Kittatiny and others had failed. The trouble with Snyder was that after being picked awhile the globules of the berry would turn a little red.

Mr. Hooker considered Ancient Briton superior to Snyder in quality, and one of the hardiest of berries, but not quite so hardy as Snyder with him. It retained its black color, which Snyder did not, but the latter was good for canning purposes. Ancient Briton was gaining ground every day, and was being quite extensively planted in Wisconsin.

Replying to an inquiry concerning the Erie, Mr. Hooker said it came to them from New Jersey, and was recommended to stand twenty degrees below zero. His experience with it was limited but favorable; the fruit was large, handsome and showy, and of good quality.

*Which are the best raspberries for market, black and red, early and late?*

Mr. Arnold said with him Souhegan, Ohio and Gregg, for black; and Cuthbert was the only red berry he had that payed. He did not fancy the Marlboro.

Mr. Varney spoke highly of Marlboro. It was not a heavy bearer, but was early and stood up well.

Mr. Green thought Cuthbert was gaining ground over Marlboro.

Mr. Van Dusen had twelve acres of Schaffer's Colossal, and sold \$2,000 worth to the canning factory. He expected to plant twelve acres more.

*Can the Wealthy and McIntosh Red apples be grown advantageously in Western New York?*

Mr. Willard believed McIntosh Red could; it was a very superior variety.

Mr. Arnold had fruited it on young trees. It bore well and early, and seemed to be abundant.



Mr. Barry planted a specimen tree supposed to be Wealthy, which had commenced to bear recently, giving beautiful fruit in October. It was a delicious apple, with white flesh, but he had thought it was later. There was considerable difference between the ripening in this locality and Minnesota.

Mr. Ansley sold them for \$2.40 per barrel. It was a very fine fruit.

*Is it necessary, in order to have a good lawn, to cover it in the fall with stable manure, and let it remain until spring, to the disgust of all who pass by, and at great risk to the health of the family and neighbors? What can we use instead for fertilizers for this purpose?*

Mr. Hooker said one-half the lawns in the city were thus defaced. Owners spend large sums in preparing and in ornamenting their lawns, by planting beautiful trees and in keeping them clean, and then, as winter approached, covered them with the contents of the barnyard. This was too bad, and perfectly disgusting, and they ought to be educated to discontinue the practice. The noxious vapors were carried through the cold air boxes and other openings into the houses, and if there was anything in these vapors it must be injurious to the residents. After a good turf was formed nitrate of soda and wood ashes would produce all the growth of grass they needed.

Mr. Willard said the same practice prevailed in the country, and on some places in Geneva the stench was almost unbearable. It certainly must be injurious to those who sleep in rooms on the ground floor.

Mr. Hoag had seen some places where, after the fall rains, the manure was raked off. He thought plenty of bone should be added to the fertilizer recommended by Mr. Hooker.

Mr. Barry said a compost such as nurserymen used would accomplish the same result.

Mr. Rupert has used phosphate, and the grass grew three inches, while where none was applied it grew only one inch.

Mr. Lamb did not think well rotted manure was unhealthy, and if used properly it would not be objectionable; but Mr. Hooker said the best authorities held that malaria comes from decaying vegetable and animal matter.

Mr. W. B. Smith, Syracuse, asked for reports concerning Hubbardston's Nonesuch apple. He had sold his at home for \$3.50 per barrel.

Mr. Willard spoke highly of it.

*What will be the effect of California competition?*

Mr. Hubbard said when he was in New York, California fruit was all that was offered, at four or five cents, but in Philadelphia they had Western New York fruit.

This closed the discussions, and Mr. Barry was glad that, in spite of the prevailing epidemic, they had had a successful meeting. The interest in the organization was growing, and they had every reason to congratulate themselves on having accomplished so much. As a Society, Western New York stood foremost in the rank of similar societies in this great country.

The convention then adjourned.

## NOTED CEMETERIES.

At the meeting of the Massachusetts Horticultural Society a paper was read by JOHN G. BARKER, superintendent of Forest Hills Cemetery, Jamaica Plain, which was mainly a description of cemeteries and parks visited during a journey to Detroit to attend the third annual convention of the American Cemetery Superintendents' Association. The principal portion of the paper is here reproduced:

Albany Rural Cemetery was incorporated in 1841, and now comprises three hundred acres. The varied surface of hill and dale was very striking, and the beautiful natural ravines were so charming that it seemed as if nature had done her best to provide a fitting place for this rural cemetery. The long changing drives, showing a vista here and in another plan a more distant view, were truly delightful.

The next cemetery visited was Oakwood at Troy. This is situated at the summit of an abrupt line of hills, overlooking the Hudson, the view taking in a range of distant hills and mountains nearly a hundred miles in extent, the cemetery itself extending a mile and a half on the home hills and comprising more than three hundred acres. At the bends in the course of its western hilly outline there are stretches either of new landscape or of different views that are enchanting. In different parts of the grounds are several lakes, which add much to the attractiveness and interest of the place. The planting and arrangement of the trees and shrubs are in excellent taste, and the rearrangement of the early occupied part of the cemetery, by the removal of hedges, iron fences, crowded trees and shrubs, and sodding over useless walks, has made it nearly as attractive as the newer part.

Forest Hill Cemetery at Utica was next visited. The situation of this cannot be excelled, overlooking the city and the surrounding country, which has great wealth of natural beauty. The outlook in every direction is very interesting, and from many points the distant views are very fine. One slope, on which, in the same lot, are the last resting places of Governor Seymour and Roscoe Conkling, commands a beautiful view of the Saquoit and Oriskany valleys.

Many persons visiting the cemetery have noticed a peculiar granite boulder on a little mound near the entrance, and have wondered what it was, and why it was there. This is the famous Oneida stone, which was held in great reverence by the Oneida Indians. It was fabled to have fallen from heaven as a special gift from the Manitou to their tribe. Their councils of war were held around it, as it was supposed to bring them success against their enemies. When the tribe fell under the rule of the white man the stone mysteriously disappeared, and all trace of it was lost. It was afterward found on the top of a hill at Stockbridge, N. Y., and placed in Forest Hill Cemetery, and among the many rich and beautiful memorials that fill the cemetery there is none more appropriate than this monument to the ancient people of Central New York, the Oneida Indians. The sacred character of the stone was doubtless attributed to it on account of its peculiar shape, as well as the fact that it is of a kind of granite not generally found in this part of the State.

The next stopping place was Syracuse, where Oakwood Cemetery is delightfully situated in a beautiful oak grove. Within its one hundred acres is em-



braced a combination of attractions which, if anywhere equalled, is nowhere surpassed. Placed most fortunately not too near the city, nor too far from it; mostly covered with young and thrifty woods of the second growth, so abundant as to allow great opportunity for selection, its surface diversified by the most beautiful and varied elevations and depressions, presenting views unparalleled in their extent and their magnificence, rendered attractive by natural lawns and the most picturesque scenery, it is all that the highest judgment and taste can demand or the liveliest fancy paint, and the careful hand of improvement will each successive year develop and heighten the charms with which nature has liberally endowed it. Many elegant monuments and one costly mausoleum have been erected, and these are not so crowded as to injure the natural beauty of the place, as in too many of our cemeteries.

Forest Lawn Cemetery at Buffalo contains about two hundred and fifty acres, laid out on the most liberal scale, with broad avenues, which were found in an unusually excellent condition. The whole grounds had more of a park-like appearance than any cemetery that the lecturer had seen. The views of the projectors of this cemetery were that in many particulars, such as the style, kind, and relative position of monuments, the laying out, adornment and boundaries of lots, and their floral and arboreal decorations, individual fancies should be subordinate to a general plan and subject to rules designed to secure harmony and uniformity, and exclude such manifest violations of good taste as often mar our places of sepulture. They felt that it would only be necessary to state this general plan and to mention a few of the arguments in support of the rules adopted to secure the assent and hearty coöperation of all who took an interest in the success and prosperity of the enterprise. The soundness of these views is shown by the results visible to-day.

It was also considered of the first importance to locate this cemetery where it would enjoy a permanent seclusion; where the expenditure of taste and money would be a heritage for all coming time; where the desecrating tendencies of modern commercial growth should never violate its sanctity, or the encroaching waves of a noisy, restless city life disturb its repose. More than twenty years have passed since these views were expressed, and the spot selected seems in a remarkable degree to fulfill the conditions named.

A deficiency noticed here seems to be that there were too few shrubs and flowers, not the perishable ones that must be renewed every year, but groups of choice evergreens and hardy flowers.

At Hamilton, Canada, although the cemetery was found well kept it was crowded to excess with monuments and iron fences, and there were no signs of modern improvements.

At Woodmere Cemetery, Detroit, Mich., which is admirably adapted for the purposes of adornment as a rural cemetery, there is a broad expanse of water, which when cleared and improved will form lakes two miles in length, that will add very materially to the beauty of the place. The grounds are laid out on the landscape lawn plan, with liberal avenues and broad sections of lots. Many fine trees and shrubs were noticed, among which the tupelo tree, or, as it was then called, the pepperidge, was strikingly beautiful. The rich scarlet or crimson autumn foliage of this tree is more beautiful than any other, and these were the richest that Mr. Barker had ever seen.

Elmwood Cemetery is the oldest in Detroit, and is about filled up, but it was pleasant to notice that

whenever the opportunity for improvement existed it was taken advantage of. Near the entrance were some floral designs, in good taste and not overdone. Mount Elliott Cemetery is also one of Detroit's principal burial grounds, but presenting nothing calling for special notice.

Woodlawn Cemetery, at Toledo, O., is delightfully situated; it is cut by a deep ravine in which an artificial lake has been formed, which is a great ornament to the grounds. The trees and shrubs are appropriately planted in single specimens and in groups, and are now attaining a size which makes them very effective. The evergreens were very conspicuous, and give life and character to the place, especially in winter. The lawn plan is adopted here. It was pleasing to notice the great variety of size and shape given to the lots, the sameness of which is often distressing; it seems as if the tastes of all might be satisfied here. This having been commenced later than the other cemeteries mentioned, the trustees have had the opportunity to profit by their experience, and the result shows that they have not neglected it.

Spring Grove Cemetery at Cincinnati is well known, and reported the most beautiful cemetery on this continent. It contains about six hundred acres, 350 of which have been improved and laid out. Near the gateway is a large stone building containing rooms for visitors, directors' room and superintendent's office. Further to the left is the chapel, connected with which are two receiving vaults. The heavy bronze doors to these tombs are of very elegant design. The subject of the first is the widow's son, the Saviour touching the bier, with the inscription, "Young man, I say unto thee, arise." The second has Jairus's daughter, the Saviour touching her hand, with the words, "Be not afraid, only believe." The third represents Martha and the Saviour at the grave of Lazarus, with the words, "Thy brother shall rise again," and the fourth the Saviour rising from the tomb, with the words, "I am the resurrection and the life." The large window in the chapel is 14½ feet wide and 20 feet high, representing the ascension of Christ accompanied by two angels, while the eleven disciples stand below, gazing in awe and wonder upon the heavenly scene.

Passing from the building we come to a beautiful level lawn, enriched by single specimens and artistic groups of evergreens, so charmingly arranged as to form a study for all who have a love for landscape art. It is truly wonderful what art has produced on what must have been a barren plain. In a selected spot on this lawn has been planted a memorial group to the late Dr. John A. Warder.

Passing under the railroad bridge we come in sight of a chain of beautiful lakes interspersed with small islands, the largest of which was given by the corporation to the late Mr. Strauch, the superintendent, as a family burial ground, and there his remains are now laid.

The trees and shrubs are a special feature of the ground; among the most noticeable are a very fine group of the Louisiana cypress; superb specimens of *Abies excelsa*, some very large *Abies polita* (the Korean spruce), *A. compacta*, *A. Alcockiana*, *A. concolor*, *Magnolia stellata*, *M. glauca*, *M. tripetala*, elegant specimens of liquidambar, most beautiful laurel-leaved oaks; grand American white oaks (*Quercus palustris*); pin oak, tall and elegant trees; *Pinus Mugho*, *Pinus Cembra* (the Swiss stump pine), a handsome and distinct species, particularly well adapted for cemetery planting; some of the largest and finest American beeches we have ever seen; magnificent trees of *Liriodendron tulipifera*; *Vitex Ag-*



*nus-Castus*; a *Platanus orientalis* at least a hundred feet high; the chestnut oak (*Quercus castanea*), one of the most graceful of the oaks; and an elegant tree of the Osage Orange, full of its bright colored fruit, the tree low, spreading and round-headed, and of such fine proportions as to be truly fascinating. There were oaks, maples and evergreens of many varieties, including the new and rare evergreens from Japan, and all the old and new species and varieties of shrubs in great abundance.

The only monument to Dr. Warder was a scarlet oak, planted, we believe, with his own hands. A tree of the same kind is planted at the head of the grave of Robert Buchanan, the first president of the corporation, and a well-known horticulturist. The grave of Judge John MacLean, who delivered the consecration address in 1854, is marked by a chestnut oak. In this there is a suggestion to us: the glaring white marble and polished granite are very monotonous in many of our cemeteries. Is not the use of trees a step in reform, and far more appropriate than many meaningless stones that are erected?

All the improvements since 1855 have been from plans by the late superintendent, Adolph Strauch, who was very successful in blending the old and the new, so that where they come together the change is hardly perceptible. Mr. Strauch was eminently successful in all his work as a landscape gardener, standing at the head of his profession, and no man could leave a more fitting monument to his memory than the work that he accomplished at Spring Grove.

The last cemetery mentioned by Mr. Barker was Cedar Hill, at Hartford, Conn., which is laid out on the landscape lawn plan, free from unsightly curbs and iron fences. It contains nearly three hundred acres, charmingly diversified with hill and vale, lawn and stately trees, and the natural beauties have been heightened by the tasteful hand of art. There is a beautiful chapel built with the funds bequeathed by the late Charles H. Northam, and known as the Northam Memorial Chapel. Mrs. Julia Gallup also bequeathed twenty-five thousand dollars for a gateway, and the plans for this have been successfully carried out in harmony with the style of the chapel.

### THE GOOD-LUCK LILY.

I have now in full and beautiful bloom seven bulbs of the Sacred Lily of the Chinese (*Narcissus tazetta* Grand Emperor) in four Japanese bowls, and bearing no fewer than forty-five spikes of bloom; the perfume exhaled by them is somewhat overpowering. The first flower opened just six weeks after the bulbs were put into the water, and nearly all the offsets or side bulbs have produced a spike of bloom.

W. E. G., in *Gardeners' Chronicle*.

### A DIFFICULT CASE.

E. C. H., of New Bedford, Massachusetts, has a yard where brick walls rising on the north side, a house and fence on the south, and a large Ash tree in an adjoining lot at the west, overshadowing the rear end, altogether make the place very unsuitable for the cultivation of

flowers. After many trials very little success results. In this case, and not being able fully to comprehend all the conditions, we would not attempt to give specific instructions. The best course to take is to get the advice of the most competent gardener in the town, or better still, two of them, and be governed accordingly.

### AN OLD BOTANY.

There lies on my desk before me a book, in faded yellow paper cover, the title page of which runs in these words:

ARBUSTRUM AMERICANUM:  
THE  
AMERICAN GROVE,  
OR AN  
ALPHABETICAL CATALOGUE  
OF

FOREST TREES AND SHRUBS,  
Natives of the American United States,  
Arranged according to the Linnæan System.

CONTAINING  
The particular distinguishing *characters* of each  
GENUS, with plain, simple and familiar *Descriptions* of the *Manner of Growth, Appearance, &c.*, of their several *Species* and *Varieties*.

ALSO, some hints of their uses in,  
MEDICINE, DYES AND DOMESTIC ÆCONOMY.

Compiled from actual knowledge and observation, and the assistance of botanical authors,  
by Humphrey Marshall.

PHILADELPHIA:  
Printed by Joseph Crunkshank, in Market Street,  
between Second and Third Streets.

MDCCLXXXV.

This is a copy of the *first botany* published in America. *Clayton's Plants of Virginia* was published earlier, but in Leipzig. There had, however, been a catalogue published of the plants growing near Gray's Ferry, below Philadelphia, by WILLIAM BARTRAM. This was of the nature of the catalogues issued by our nurserymen of the present time, for BARTRAM was a dealer in plants at a time when there was quite a demand for American plants in Europe. H. MARSHALL was a cousin of BARTRAM's, was engaged in the same business, and his *Arbustrum* is a more pretentious catalogue than that of BARTRAM.

The book contains 174 pages, and seems to have been printed in parts, and so at intervals issued to subscribers. It is dedicated to BENJAMIN FRANKLIN, Esquire, and to JOHN EWING, D. D., WILLIAM WHITE, D. D., and SAMUEL VAUGHAN, Esquire, President and Vice-Presidents of



the American Philosophical Society. The book closes with this advertisement :

BOXES OF SEEDS and GROWING PLANTS  
OF THE  
FOREST TREES, FLOWERING SHRUBS, &c.,  
OF THE

AMERICAN UNITED STATES,  
are made up in the best manner and at a reasonable rate, by the author. All orders in this line, directed for *Humphrey Marshall*, of Chester County, Pennsylvania, to the care of Dr. THOMAS PARKE, in Philadelphia, will be carefully and punctually attended to.

In his preface MARSHALL remarks that he has in contemplation the preparation of a catalogue of the herbaceous plants of America. This, however, was prepared by Dr. MUHLENBERG, of Lancaster, Pa., and published about 1813. It is a most interesting little work of 50 or 60 pages. The plants are largely treated of by a single line running across a double page, on which, in columns, are arranged the kind and color of corolla, time of flowering, and other botanical characters, by means of which the plants might be recognized. All the books here referred to are very rare and now difficult to secure.

GEO. G. GOFF.

#### THE DIAMOND GRAPE.

The following communication is sufficiently explanatory, and place is cheerfully given to it in order to correct the error mentioned :

EDITOR VICK'S MAGAZINE: We noticed in the report of the meeting of the Horticultural Society of Western New York—page 96 of the MAGAZINE—in regard to Moore's Diamond Grape, that Mr. SNOW, of Penn Yan, N. Y., remarked that he had two vines, but did not consider it worth a place in the vineyard for money. This is undoubtedly a mistake on the side of the reporter. The following letter will explain :

*To the White Diamond Grape Co.,*

*Brighton, N. Y.*

GENTLEMEN: In answer to yours of the 5th inst., I don't think I said anything about the Diamond, simply because I don't know anything about it. Never fruited it. Never happened to see any thing of the fruit, except some poor samples at our County fair, last fall, which I told Mr. MITZKY I did not believe to be a fair sample. I did say something about the Lady Washington, which is too late. Think well of the Niagara. May have said something about Pock-

lington and Duchess. But cannot say now as to whether I mentioned any others or not.

G. C. SNOW.

In a letter received from Mr. S., a few days later, and after he had seen the report in the MAGAZINE, he says: "You may say that I am wrongly reported in saying what I am purported to say. I have but one vine of the Diamond, which shows very positively the error—that has not fruited yet."

Upon further inquiry we find that nobody can remember that any such remark was made by Mr. SNOW. We, therefore, kindly ask you to give a correction in your MAGAZINE.

THE DIAMOND WHITE GRAPE CO.

#### BEAUTIFYING RAILWAY ROUTES.

The *Railway Register* notices the efforts of different railways to make their routes pleasant in appearance. The Boston and Maine Railroad is painting out all the signs and advertisements along its line—said to be some three thousand five hundred painted on its fences. The Nashville, Chattanooga and St. Louis line has arranged for the planting of evergreens in its station yards, and the Nettleton Road has planted its station yards with foliage and flowering plants. A great work of improvement might be carried on along most railways by destroying weeds, and seeding the banks with grass seed. This work could be done early in spring and in August and September.

#### MY GARDEN AND ITS PLEASURES.

I am a subscriber to your MAGAZINE, and have also the bound volumes for six years, and I find a great amount of very useful information in them. No person who has any love for flowers and cares to keep posted on the new varieties can afford to be without it; better cut off from their list some of the wishywashy ones that are sent under the names of Floral Magazines, or some monthly papers that have half a column written by some one who knows more about building rail-fences or threshing wheat than they do about cultivating flowers, better, I say, to subscribe for one good, reliable monthly, like VICK's, even at twice the cost, and when the end of the year comes they have learned something about the culti-



vation of plants and flowers, and they will gladly subscribe for another volume.

Ten years ago I did not care for flowers. Mrs. D. was constantly ordering plants and seeds from your house. I thought then it was a waste of money. In 1882 I visited with my family in a neighboring city. The lady who entertained us had a fine conservatory, and my attention was called on different occasions to see that beautiful this, and that lovely something else; but flowers were Greek to me. When our visit came to an end, a large basket of plants, cut-flowers, cuttings, etc., was taken out of the carriage at the depot and handed to me to take home for Mrs. D. Of course, I could not refuse to take it. I got on the train, and soon made up my mind to leave it at the depot, where we changed cars to take the New York Central Railroad, and there I left it. I was not going to be seen carrying a basket of flowers through the streets of Syracuse. On our arrival at the Syracuse depot, the first request from Mrs. D. was, "now you take the basket, and I will take care of the children." The result was a telegram to said cross road, and an express bill on a basket of plants to Syracuse, which I gladly paid. But men's hearts will sometimes soften. Every few days a letter to VICK's for this plant or a package of those seeds, with the remark, "you do not know how lovely they will look when you see them in bloom." When I am told to do a thing I always obey, especially from one whom I promised to "love, honor, cherish and obey." For my own part I was satisfied with a closely shaven lawn, and we have two and one-half acres of that, with beautiful shade trees, fine walks and drives, and I thought it wicked to break it up with flower beds and shrubbery.

Five years ago I purchased six bound volumes of your MAGAZINE; the more I read them the more I was interested in the cultivation of flowers. No one can read your MAGAZINES, and read them carefully, that will not desire to know more about plants, and be more associated with them than they previously were. So, one day, I told Mrs. D. that "Barkis was now willing," that next spring she should have all the plants she wanted. Your catalogue was the first one sent for, and every evening she would

sit down and go over the list. I wanted pints and pounds of each seed, but Mrs. D. said five and ten cent packages would be a great plenty. She insisted that what came from your house was always just what you described it. We had other catalogues for examination, and I could not see why other dealers were not just as reliable. They made out that their Pansies measured a foot across, that their Geraniums would blossom four times as much as any one else's, that their Petunias always came double, that all you had to do was to buy their plants and seeds, and you would get four times as many plants and flowers as you would from any other house. But Mrs. D. insisted that she never bought seed for black Pansies from VICK and had it come out white, or a red Rose from VICK and had it come out white, and that his catalogue was always to be relied upon, and, by the way, if some of the dealers keep on with their extravagant advertising, we will be led to believe that they have blue Roses.

So an order was made up from VICK's catalogue, and everything came all right, and our first large flower bed was made. We secured the services of a competent gardener who had been in the country but a few years, and a portion of that time had been spent in VICK's establishment, and everything went along swimmingly. We bought hardy plants and shrubs and perennials, and began to slip and make cuttings, and in the summer of 1888 it was hard work for the gardener to use lawn mower, as our grounds were so cut up with beds. In the fall of 1888 we took up some of our Geraniums and put them in the cellar. In January, 1889, we took them out and filled some of the windows in the house; also in the barn, which was well heated, and from thirty good plants we got over one thousand cuttings. By May first they were strong plants in three-inch pots, ready to set out. We put out in the borders of the drives around our grounds three rows of Geraniums. In the middle we planted a row of scarlet Geraniums, and on the outer edges rows of Silver-leaved varieties, and such a brilliant display as they made in July and August, it would have done your heart good to see them. Had they been planted in one row, two feet apart, they would have made a bed eighteen hun-



dred feet long. Just think of it; and the original did not cost us \$5.00.

We also raised, in hot-beds, *Dianthus*, *Nicotiana* which, by the way, is one of the sweetest scented flowers growing, *Ageratum*, *Asters*, a bed that was admired by everybody, and from it we took more than one thousand blossoms from twenty-five cents worth of seed, and they were as pretty as *Chrysanthemums*. Sweet Peas, and you cannot have too many of them; Marigolds, Feverfew, Phlox, and many other kinds. We bought, also, a small *Wistaria*, *Clematis*, Cinnamon Vine, *Cobœa scandens*, English Ivy, and many other vines. My gardener made cuttings from *Abutilons*, *Fuchsias*, *Begonias* of which we had originally six, but now have fifty-six, including the flowering, tuberous and *Rex* varieties. But fall was coming on, and what should we do with all these plants? My gardener said, "you should build a glass house, and you can have flowers in winter as well as summer." I had read in HENDERSON'S books about the cost of glass houses, and advertisements of others, where, for \$350, they would send you a house, size 8 x 12 feet, with an additional room for boiler, and that they would send pipes and everything ready, so that any carpenter could put it up in a day; but they did not say anything about what the plumber's bill would be for putting pipes together, setting boiler and making connections, and I added \$50 more for this. But this will cost too much, I thought.

So I saw a carpenter, went to the glass-works to see what I could buy double thick glass for, saw a plumber, wrote to HITCHINGS & Co. for the best price on a boiler, the size my plumber said I would need. The books all told me that to build a glass house forty feet long and eighteen feet wide, with a bench on each side three and one-half feet wide, and a center bench five feet wide, with ventilation and hot water pipes and a boiler, would cost from \$1,200 to \$1,400; but I found out, after seeing the carpenter, glass-men, plumber, glazier, painter, and everybody else that was necessary, that I could build a house fifty feet long and eighteen feet wide, heated by HITCHING'S corrugated boiler, number 15, for \$670, and I let the contract, and in forty days it was all done,

At the present time we have over three thousand plants in the house. We have in bloom, to-day, *Hyacinths*, *Tulips*, *Abutilons*, *Begonias*, *Callas*, *Cinerarias*, *Deutzias*, *Brugmansias*, *Tuberoses*, *Oxalis*, *Gloxinias*, *Chinese Lilies*, *Hibiscus*, *Bouvardias*, *Cyclamen*, *Freesias*, *Roses*, of which we picked twenty to-day. Carnations which average twenty-five blossoms per day. We have in all ninety-six varieties of plants.

My whole expenditure for 1889, including the glass house, heating, and all the plants that we bought, will not exceed \$900, and it will cost but a trifle in the future for plants, as we can raise all our own. We have in blossom, to-day, a seedling *Geranium*, not named, the flower truss of which measures nineteen and one-half inches in circumference.

Now, Dear Editor, I have written a rather long epistle, but the half has not yet been told. If people who have but limited means could only see our house, I know they would be tempted to have one before another year rolled around. Suppose they build one only half as large, at a cost of \$200 without heating, and for \$30 more they can heat it with a flue, which will be just as well for that size house. Just think how much enjoyment they could get from it.

To the men readers of your MAGAZINE let me say, if you want to enjoy your home, if you want something to take up your time, if you want something that will not only make yourself happy, but also your wife, your children, and your neighbors, I advise you to build a glass house at once. Get your plants from VICK, and you will never regret it.

T. W. D., *Syracuse, N. Y.*

#### GRAPE MILDEW AND ROT.

It is now recognized as a fact by the best authorities—those who have had most experience in the use of the copper mixtures—that spraying the vines late in the season, or after the fruit has set, with the Bordeaux mixture, gives a coppery taste to the fruit, even when ripe. Fruit so tainted can have the copper removed only by immersing it in a bath of vinegar or dilute sulphuric acid, an operation which, of course, unfits it for market. To obviate this difficulty it is now proposed to use an ammoniacal solution of carbonate of copper for the later applications,



as it is said that this solution leaves no taint on the fruit. The efficacy of this substance is, however, still problematical. For the benefit of fruit growers we give an account in detail of the process recommended for the protection of vines and fruit from the attacks of the fungi which produce mildew and rot.

The Bordeaux mixture is prepared as follows: First, dissolve six pounds of sulphate of copper in sixteen gallons of water, and in another vessel slake four pounds of lime in six gallons of water, after which the copper solution and the lime paste are slowly poured together and thoroughly mixed by constant stirring. The slaked lime should be run through a sieve to free it from the coarse sediment.

It will be found convenient to heat the water in a wash boiler, such as nearly every household possesses, and then use this in dissolving the copper, which is placed in a half-barrel. For the final mixing of the copper and lime a barrel should be used. With this mixture spray the vines the first time when the leaves are first starting. The second application should be made about the time the flowers are opening, taking care to reach all the green parts of the vine. The after treatment has been to repeat the spraying at intervals of about two weeks until the fruit commences to color. But on account of tainting the fruit it is now proposed to use, after the second spraying, the following described solution: Dissolve three ounces of carbonate of copper in two quarts of strong aqua ammonia, then dilute with water to twenty-two gallons. This solution is cheaper and more easily applied than the former one.

Those who have had experience advise the application of the liquids to be made with a force-pump from a barrel drawn on a wagon, low-wheeled cart, or a sleigh. A portable machine, called the Eureka Sprayer, has the fountain in the form of a knapsack, which is carried on the back. The cost of effectually spraying a vineyard through the season is estimated at six dollars an acre.

#### NOTES FROM THE PAST YEAR.

As no one helped me, I have "helped myself" to a brief list of Hybrid Perpetual Roses that, with good care, can be grown in this region.

A valuable adjunct to Mme. Plantier is Perfection des Blanchés, with its richer foliage and much better tendency to frequent blooming.

Gen. Jacqueminot, Paul Neyron and Duke of Edinburgh have withstood several winters.

The past summer brought to effective, thrifty growth my Prince Camille de Rohan. A late freeze thinned its multitude of early buds, but it recompensed throughout the entire season by scattering blossoms—perfection in richness of color and texture.

Having discovered that I have missed much in not making freer use of evergreen branches, I haste to remind others likewise neglectful of their value. If the cut ends are placed towards the direction from which our severest winds come they keep their places well. Seeds are sure to germinate in their shade, and tender plants are protected from late light frosts. Last fall I placed them over forest leaves for winter protection, and delighted in the "holiday" attire of my garden. Alone, they are the best covering for Pansies, not only as a safeguard against frost, but also stray fowls, who are very fond of their buds when vegetation is scarce. Stripped of their leaves they may serve the latter purpose later, or be left for a framework over which may spread trailing or climbing plants. Where wild growth is plentiful they can be secured with little trouble, as the branches break readily when frozen.

I find the Gaillardia, in its richer shades, a remarkably useful and satisfactory annual. It frequently "sows itself," and these early plants can be kept in constant bloom until heavy frosts. It lends itself harmoniously to fashionable schemes of color, as a corsage flower, remaining open at evening, when its beautiful neighbor, the Annual Chrysanthemum, provokingly closes, and retaining its freshness for a long time.

Long stalks of varied-hued Larkspur, with feathery purple-topped grasses form an effective variety in decoration.

Some orange shoots, pulled with their roots, (I grow the young plants for their perfume,) have kept their freshness all winter; a useful green for a continuous change of flowers, though especially attractive with white ones.

F. F. L. D., *Durand, Wis.*



# OUR YOUNG PEOPLE.

## LUCY'S WILD GARDEN.

The spring was early and warm, and Lucy Page was already seen hovering about her garden of wild-wood treasures. Under the dead-leaf covering she found the Ground Hemlock, looking as green and fresh as though no wintry air had reached it. "You dear, brave things," she said, "how I do love you." Then she paused, as though spell-bound, over the incipient shoots of *Sanguinaria* (Blood-root), marveling at their almost transparent delicacy and whiteness as she thought of the crimson roots that sent them forth. "It looks like a spirit plant," she thought, "but a few touches of daylight, a few breezy whiffs of air will give it color like the rest." Then, seeing her next door friend, the young minister's wife, approaching, she said, as she came up to her:

"Mrs. Steele, if all color comes from the sun, how do the *Sanguinaria* roots get their blood-red hue?"

"Still puzzling your head over the mysteries of nature, I find, and asking me questions I cannot answer," replied Mrs. Steele. "I spied you over the fence, flitting around your 'wild garden,' and came to see how many of your sweethearts and pets have died of home sickness."

"Not one, I believe," and Lucy uncovered patches, here and there, pointing out the sturdy-looking growths of the later plants, calling her friend's attention to the *Trilliums*, *Solomon's Seal*, *Jacob's Ladder*, *Indian Turnip* (*Arum triphyllum*), *Wood Sorrel* and *Maidenhair Ferns*, as well as to the *Coltsfoot* in bloom, and *Hepaticas* and *Spring Beauties*, already in bud.

Where the little garden escaped from the shade and sloped southward down to the rivulet formed by a spring, there was a company of sun-loving wild plants that the two friends next stooped over to greet with a welcome to their civilized home (wherein some of them had ventured as aliens before they were adopted, only to be rejected as intruders). Among

these were *Buttercups* and *Dandelions*, with their cups and hearts of gold, *Wild Asters*, *Ox-Eye Daisies*, *Lady's Slipper*, *Wild Columbine*, *Golden Rod* and *Blue Bells*, *Dog-toothed Violet* (*Erythronium*), the common *Blue Violet* and the handsome *Bird's-foot Violets*.

Bordering the water's edge were many plants of *Forget-me-not*, *Blue-eyed grass* and blossoming *Flags*. And just where the streamlet slipped away from the garden, sliding under the fence like a silvery serpent, just there, some fragrant *Spearmint* had somehow thought to set up a pre-emption claim, and had taken possession, because of its liking for damp places, perhaps. It was already pushing numerous shoots through the soil.

"How *did* it get there?" queried Lucy. "You are sure, Mrs. Steele, that nothing ever comes by chance?"

"Just as sure as I am that there are stars overhead, though we can't see them to-day. It may have taken a hundred years for the winds to carry, or a bird to drop, the first seed that ever germinated here; or, the water may have washed its way to a seed lying latent in the soil. *Nothing* can come from nothing. But you have other things here; are they volunteers, too?"

"O, no; the *Spearmint* reminded me of other wild, odorous plants, and so I flanked it with rows of *Pennyroyal*, *Peppermint*, and wild *Bergamot*, the scarlet and purple, which form an odd group of wild aromatic plants that I enjoy making grow together. I don't think they're at all jealous of one another, but each one of them enjoys the fragrance of all the others."

"You still endow your pets with sentiment and feeling. I thought, last summer, that you would soon outgrow that fancy."

"I never shall."

"Do you still like your wild friends better than the flowers your aunt cultivates?"

"Yes; she only grows the ones that



cousin Nina used to like best. When I had others, for the sake of variety, it seemed to annoy her. I think she would like me better if I were not so unlike her daughter. But uncle Page is fond of me, and very kind. He was at great pains to have this ground dug up and covered a foot in depth with sandy loam and leaf-mold from the woods; and this is why my darlings are not homesick. The soil and shade are so to their liking that they realize no change. I take comfort in thinking that after the lonely, isolated lives they led, so like my own in the past, they enjoy being brought together, with somebody who likes to care for them. I think they somehow understand this, and feel about it as I do, and are quite satisfied to remain here."

"Dreamy, as ever."

"You may laugh and think me foolish, but you don't know the heart-hunger of an orphan starving for love—first for human love, the fruitless craving at last extending to inanimate things, until you could imagine the eyes of Daisies and Pansies looking into your soul and reading its loneliness. I was always strolling in the woodlands in those days, from early spring to late autumn, and learned the faces and forms of many wild beauties long before I knew their names. When uncle Page found me, and gathered me close in his strong, sheltering arms, I was almost as shy as the squirrels I had left in their forest home, and felt afraid of him. After he brought me here and found me pining for my wildwood friends, he made me this garden and taught me their names."

"And you are not lonely now?"

"Auntie's heart is in the grave with Nina. I have no mother, and could love her if she would let me. But she lives so much in her memories of Nina that she makes even uncle feel lonely when with her. So he and I have to be company for each other when he is at home. She is always kind to me, and thoughtful of my comfort, yet when, in return, I want to put my arms about her neck and kiss her, I am afraid to do it."

"I don't think you need to be," responded the sympathetic Mrs. Steele. "The next time you feel like doing so don't stop to think about it, but act out your impulse."

"I could never do it; you don't know

how it is. It would seem to her as if I were trying to put my sober, common-looking self in the place of that charming, sunny-hearted girl, with her lovely face and winsome ways. I think she would feel hurt, and perhaps put me away from her. But I should be almost happy if only she could love me and let me love her in return."

"You dear girl! I think it will be so yet. But what am I to do? I love you myself and want to kiss you this minute; must I be afraid to do it?"

"O, dear, no," and a pair of young arms were thrown about Mrs. Steele in close embrace. As they parted, Lucy said, "I must go in, too. Auntie is giving me lessons in cooking and house-keeping, this spring. She is so particular and systematic that I am constantly on the alert, lest I prove a discredit to her teaching. I intended only to have said, 'Good morning' to my pretties, and now I've staid too long."

"Poor Lucy," sighed Mrs. Steele, "she'll have a difficult time in trying to perform her duties after her aunt's exacting ideas," and she went home and interrupted Mr. Steele's sermon writing to tell him all about it.

A few weeks later Mrs. Page went off for a week's visit, leaving Lucy, for the first time, to keep house for her uncle, choosing the cook's absence as fitting time to test her capabilities. Mr. Page was delighted with Lucy's adeptness and housewifely ways, praising her without stint. He thought her amber coffee was delicious, laden with its aroma; the broiled steaks were juicy and tender; the potatoes were mealy; the tea was fragrant; the pies were juicy, with pastry flaky above and dry and crisp beneath, not sodden nor tough, the *ne plus ultra* of pie-making. He thought the rooms cozy and tidy under her supervision and seemed very happy despite his wife's absence, and a dawning anxiety as to the cause of Lucy's strange and increasing paleness which he could not understand.

On the day of Mrs. Page's return Mrs. Steele called in a social way, and not seeing Lucy, asked for her in reference to the next day's Sabbath school lesson. Mrs. Page, having called her from the foot of the stairs, returned with the request that Mrs. Steele should go to



Lucy's room, remarking that the girl had not seemed very well since her return. Going up stairs, Mrs. Steele found Lucy sobbing:

"I am *so* ashamed," she said, "for you to find me such a baby. But I seem to have no self-control, to-day," and she grasped her friend's hand tightly and tried to laugh a little, with her face half hidden in her handkerchief.

"Tell me all about it, dear," said Mrs. Steele.

"It's all so foolish," said Lucy. "You may laugh all you want to; it will make me feel better. You see I had been so silly as to feel some pride in my house keeping while aunt was away, and tried to have things especially nice for her return, hoping to please her very much, because I do so want her to love me. I scarcely looked at my wild garden for fear I might give it too much time, and I know the darlings missed me,—."

"Well?"

"I'm so silly; when aunt first stepped inside the door she gave an upward glance, and then got the wall-sweeper from the hall closet and swept down a long cob-web that was hanging over our heads, near the hall door. Then, as soon as she had laid off her bonnet, she walked straight to the pantry and then down cellar. I began to tremble so I could not follow her, but she brought up an empty butter jar that, of course, I ought to have brought up myself and washed, this morning. In the pantry she found —."

"Why, Lucy! Lucy! look at the stain on your handkerchief," exclaimed Mrs. Steele, as Lucy paused to clear her throat and commenced wiping, as though trying to hide the red blood from her lips.

"O, that is nothing," she answered, smiling. "I often do this lately—it does not hurt me; you see, I'm not sick. You'll not tell uncle and aunt, please—especially aunt; she has such dread of illness in the family. See, it has almost stopped now."

"Lucy, dear, you must *not* talk, or it will return; and if you don't want to break my heart you must let me do what I think best, and keep quiet until I return. Lean back your head—so; but don't lie down. I'll be back in a minute."

This was but the beginning of the end.

As the days went by there were frequent returns of the hemorrhages, despite the best medical aid for their prevention. During their recurrence she would smile on those around her, gently shaking her head in reproof for their anxious seeming. Thus day by day, with little pain or suffering, they saw her fading, failing, slipping from their hold, and yet, so perfectly sweet and lovely, withal, that even her aunt began to cling to her as something too precious to lose. When, at last, she expressed this feeling quite broken down, Lucy, looking upon her, asked with eager, longing eyes:

"And were I to get well, would you love me, and let me kiss you, and pat your cheeks, and smooth your hair, and fasten your brooch, and button your gloves, and do all those little things just to let me be near you?"

"Yes, yes, you dear, unselfish child! Even Nina didn't want to do those things; she wanted them done for herself."

"O, auntie, this almost makes me wish to get well again. I've been so hungry for your love that, at last, a great love came down from the sky, I think, and filled my heart and satisfied it. Since then I've been very happy. Now let me kiss you." Kneeling by the low couch, Mrs. Page embraced her niece with tearful eyes. But Lucy's eyes were dry. Her strongest love was already given elsewhere. In this position Mr. Steele found them.

"Ah, I'm glad you came in," said Lucy. "You see my wild garden here, from this window. I want no flowers nor vines about me, at last, but those. You and auntie will remember this. And your text—I'd like it to be about the 'Lilies of the field,' you know. And now I want to ask you something. Martin Luther once wrote to his young son about the heavenly garden and the gardener, as though they were realities. And before my grandpa died, I heard him say that he thought there'd be 'a little garden, or something, for him to tend up there.' Now, do you think I'll find a garden, too,—my kind of one?"

"I'm sure," answered Mr. Steele, "that you'll find what will *more* than satisfy you, so that you'll have no other wish."

"More than satisfy," whispered Lucy, and soon fell asleep to awaken beyond.

MARIA BARRETT BUTLER.





THE DRAGON FLY, OR DEVIL'S DARNING NEEDLE.



## THE DEVIL'S DARNING NEEDLE.

This curious insect is found in nearly all the warm parts of the world, and in the greatest numbers in lake or marshy districts, while they are scarce in dry regions. This is because the insects of some species deposit their eggs in jelly-like masses on the surface of the water of ponds, where they remain until hatched, or, as in other species, the insects pierce the stems of submerged plants and insert their eggs. Any warm summer day they may be seen darting hither and thither, seeking their prey among the smaller insects, for they are voracious creatures, and devour the small butterflies and beetles, which they may chance to find, with the greatest avidity. The coloring of some of the darning needles is very beautiful, rivalling that even of the butterflies and beetles.

In form, however, they are totally different from the butterfly, for they have long, slender bodies, four short, transparent wings, a head that turns as if on a pivot, eyes of proportionately enormous size, and small legs.

They are very beautifully formed and graceful, and for this reason, by the French, the insect has been named "*Demoiselle*;" another name is the Dragon Fly; still another, the Devil's Darning Needle, and the scientific name of one of the most important genera of them is *Libellula*.

The following interesting description is taken from Packard's *Entomology for*

*Beginners*, which is the best work of the kind for the young student of insect life:

"The larvæ are interesting creatures to keep alive in aquaria, where their transformations can be watched, especially if collected in the spring. Little is known regarding their habits, and any one who can spend the necessary time and patience in rearing them, so as to trace up the different stages from the larva to the dragon fly, and describe and accurately figure them, will do good service to science. When about to cast its skin, a rent opens along the back of the thorax, and the insect having fastened its claws into some object at the bottom of the pool, it gradually works its way out of the larva skin. When about to change to the adult fly, the pupa climbs up some plant to near the surface of the water, its back then yawns apart, and from the rent the dragon fly slowly emerges. For an hour or more it remains torpid and listless, with its flabby, soft wings remaining motionless, the fluids leave the surface, the wings expand, and the dragon fly rises into the air."

Like the circle of butterfly-life, life seems to be a circle also for these strange, beautiful creatures, for it is first the Dragon Fly, then the egg, then the larva, afterward the pupa, and then again a repetition of the circle to be repeated innumerable times, seeming truly a chain of existence.

M. E. B.

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## MEA STELLA.

No wonder that the poet your praise hath ever striven,

In fairest phrase and figure, to sing, bright hosts of heaven;

Hath called you angel sentries who guard o'er mortals keep,

Who fondly look and listen while men, unconscious, sleep.

Or, seeing likeness in you to flowers which earth doth yield,

Hath styled you blooms that open in heaven's azure field;

The deathless Daisies decking the meadows of the sky,

The fair, unfading Pansies that speak God's memory.

Ah, would, yon Star, thy glories I could but meetly sing,

Yet never lay, how lofty, could tribute truly bring;

For holiest inspirations do fill and thrill my heart,  
As many a mystic message thou dost, my Star, impart.

Thou hast, in sorrow, soothed me, midst evil kept me pure;

In weariness and weakness, strength lent me to endure;

Deep lessons traced, and taught me no lore of books could teach,

And sweeter songs hast sung me than ever breathed in speech.

And aye, when I behold thee, I deem her gentle gaze  
Of light is bent upon me, commingling with thy rays;

Her gaze, who (oh, my mother!) bent o'er me once in love,

Then went to watch and ward me far better from above.



Perchance, they are but fancies, these thoughts thou  
dost suggest;  
But oft, when tried and tempted, when burdened  
and distressed,

They comfort bring and courage; and men, some  
day, may learn  
How near to facts are fancies which the unfeeling  
spurn.

PHILIP BURROUGHS STRONG.

## EDITOR'S MISCELLANY.

### GRAY'S MANUAL OF BOTANY.

A new and revised edition of this well-known and valuable text book has lately been issued by the publishers, Ivison, Blakeman & Company, of New York.

The Manual, in previous editions, has related to the botany of the Northern United States, including the district east of the Mississippi and north of North Carolina and Tennessee. In the present edition the area has been extended westward to the 100th meridian, or in other words, nearly to the western line of Kansas. The work of revision has been performed by SERENO WATSON, Curator of the Gray Herbarium at Harvard University, and JOHN M. COULTER, Professor of Botany in Wabash College, assisted by specialists in certain groups.

The present edition is a great advance beyond the previous one, for, though the original plan has been retained, and as far as possible the characters and descriptions of the last edition left unchanged, yet the alterations and additions are numerous. To attempt to specify them would far exceed the limits of this notice. The Hepaticæ of the Cellular Cryptogams has been added, and the number of plates has been increased from twenty to twenty-five. "A Glossary of botanical terms is appended, to meet an expressed need of those who use the Manual alone, and a Synopsis of the Orders in their sequence is given to contrast more clearly their characters, and to show the general principles which have determined their present arrangement. This should be a useful adjunct to the more artificially arranged Key." The Natural Orders are disposed in very close accordance with the method followed by BENTHAM & HOOKER in the General Plantarum. After a careful examination of this work we are led to conclude that it should be accepted as a standard by all students of botany in this country, and that those who are now using the old edition should replace it without delay with the present one if they desire to keep apace with the progress of the day. This acquisition to botanical literature is a grand one for students at this time.

### AWARDS AT THE PARIS EXPOSITION.

The Secretary of Agriculture makes announcement: "A summary of the awards in the agricultural exhibit shows the following results: Grand Prizes, 7; Gold Medals, 40; Silver Medals, 68; Bronze Medals, 54; Honorable Mentions, 39; and a comparison with the American awards in the same classes at previous Paris expositions, or with those in other classes in 1889, must needs be gratifying to all concerned in the agricultural exhibit at the late exposition."

Supplementary to the List of Awards to American exhibitors in the Agricultural Exhibit which was sent out last November, has been received another numbering twenty-two prizes. Among these we notice, under the head of "Viticulture," a Gold Medal to GEORGE HUSMANN, Napa, California; a Silver Medal to T. V. MUNSON, Denison, Texas; a Silver Medal to A. M. PIERSON, Vineland, New Jersey; and in the class "Seeds of Forest Trees," a Bronze Medal to B. E. FERNOW, Washington, D. C.

### HORTICULTURAL REPORT.

The report of the discussions at the meeting of the Western New York Horticultural Society, given in the last and the present numbers of the MAGAZINE, was made by our special reporter, and is the only full report that has been published. A correction of an error will be noticed in the present issue. Although the report is phonographic, it sometimes happens when a discussion becomes animated that two or three speakers follow each other in quick succession, and sometimes the reference of the speaker is not always directly to the preceding subject, and the reporter fails to get the connection, but such slips are rare. On the whole, the report is exceedingly accurate, and the author of it, Mr. JOHN HALL, who is now the Secretary of the Society, may be congratulated for the faithfulness with which it has been made.

### THE FERN FLORA OF CANADA.

This is the title of an excellent little handbook descriptive of all the Ferns found in the Dominion of Canada, with the localities where they grow. It is the work of Dr. George Lawson, of Dalhousie University, and is published by A. & W. Mackinlay, of Halifax, N. S. The general character of Ferns is described and their parts or organs. A number of illustrations show the peculiarities of the genera. The generic and specific characters are well stated, and the mention of localities or stations adds much to the practical usefulness of the handbook. The little book is invested with a flexible cloth cover, and its issue in this form at the low price of fifty cents makes it easily attainable, and our Canadian friends ought to be well informed in regard to this section of their native plants.

### PLANT ANALYSIS.

Dr. George G. Groff has favored us with a copy of his new edition of *The Book of Plant Descriptions, or Record of Plant Analysis*. This is a valuable book of blank forms for the use of botanical students, and its use would certainly greatly facilitate progress and accuracy. It contains a synopsis of the terms most frequently used in the description of plants, and a schedule of the work to be performed in the botanical laboratory, and other useful matter. It is commended to the use of all botanical students. Doctor Groff's address is Lewisburgh, Pa.

### THE RURAL NEW YORKER.

This well-known and able weekly journal has been sold to the proprietors of the *American Garden*, LAWSON VALENTINE and E. H. LIBBY. The former proprietor and editor, E. S. CARMAN, will continue as chief editor, while the management of it will be united with that of the *American Garden*, under E. H. LIBBY. The *New Yorker* will be continued as a weekly.

### INQUIRIES OF SUBSCRIBERS

A number of inquiries received late have been laid over until next month, when they will receive attention.









SIX GOOD CARNATIONS.